HANDBOUND
AT THE
UNIVERSITY OF

MEDICAL RECORD

A Weekly Journal of Medicine and Surgery

EDITED BY

GEORGE F. SHRADY, A.M., M.D.

SURGEON TO ST. FRANCIS HOSPITAL, NEW YORK; CONSULTING SURGEON TO THE NEW YORK CANCER HOSPITAL, AND TO THE HOSPITALS OF THE HEALTH DEPARTMENT OF THE CITY OF NEW YORK

Volume 39

JANUARY 3, 1891 — JUNE 27, 1891

194124
6.2.25

NEW YORK
WILLIAM WOOD & COMPANY
1891

F
11
M53
v. 29

Trow's
Printing and Bookbinding Company,
201–213 *East 12th Street*,
New York.

LIST OF CONTRIBUTORS TO VOL. XXXIX.

Achorn, Dr. J. Warren, New York.
Allen, Dr. Charles W., New York.
Anderson, Dr. R. Harcourt, New York.
Ashmead, Dr. Albert S., New York.
Aulde, Dr. John, Philadelphia, Pa.
Austin, Dr. J. Edward, New York.

Babcock, Dr. J. L., Ithaca, N. Y.
Bailey, Dr. W. W., Fort Smith, Ark.
Baker, Dr. Charles H., Bay City, Mich.
Banister, Dr. J. M., U. S. Army.
Barry, Dr. John H., New York.
Beattie, Dr. Matthew, New York.
Blever, Dr. J. Mount, New York.
Bodenhamer, Dr. William, New York.
Bosworth, Dr. F. H., New York.
Briggs, Dr. Charles G., Gloversville, N. Y.
Brush, Dr. Arthur C., Brooklyn, N. Y.
Bryant, Dr. Joseph D., New York.
Bryce, Dr. P., Tuscaloosa, Ala.
Bulkley, Dr. L. Duncan, New York.
Bull, Dr. William T., New York.
Bunts, Dr. F. E., Cleveland, O.
Byers, Dr. J. Wellington, Charlotte, N. C.
Byford, Dr. Henry T., Chicago, Ill.

Camthey, Dr. Horace, Tarrytown, N. Y.
Chamberlain, Dr. F. T., Washington, D. C.
Cheesman, Dr. W. S., Auburn, N. Y.
Chichester, Dr. W. R., New York.
Churchill, Dr. Frank, New York.
Cleaves, Dr. Margaret A., New York.
Cleveland, Dr. Clement, New York.
Coe, Dr. H. C., New York.
Coit, Dr. Henry L., Newark, N. J.
Collins, Dr. Joseph, New York.
Cornell, Dr. Stanley S., Athens, Ontario, Canada.
Courtney, Dr. J. Elvin, Poughkeepsie, N. Y.
Crothers, Dr. T. D., Hartford, Conn.

Dana, Dr. Charles L., New York.
Davis, Dr. William B., Cincinnati, O.
Dawbarn, Dr. Robert H. M., New York.
Derby, Dr. Richard H., New York.
Dessau, Dr. S. Henry, New York
Dewey, Dr. Richard, Illinois.
Diller, Dr. Theodore, Pittsburg.
Dodd, Dr. William S., Vienna, Austria.
D'Oench, Dr. F. E., New York.
Drew, Dr. C., Jacksonville, Fla.
Dupon, Dr. S. F., Fort Havack, Ga.
Durand, Dr. C. Ferdinand, Lockport, N. Y.

Eaton, Dr. F. B., Portland, Ore.
Edebohls, Dr. George M., New York.
Edson, Dr. Cyrus, New York.
Eichberg, Dr. Joseph, Cincinnati, O.
Einhorn, Dr. Max, New York.
Elliot, Dr. George T., New York.
Ellis, Dr. R., Danbury, Conn.
Ellis, Dr. R. C., Waynesville, N. C.
Epler, Dr. E. G., Fort Smith, Ark.
Evans, Dr. Thomas R., Lincoln, Va.

Fischer, Dr. Louis, New York.
Fisher, Dr. William R., Hoboken, N. J.
Forest, Dr. W. E., New York.
Fredericks, Dr. L. A., Patch Grove, Wis.
Freeman, Dr. Alpheus, New York.

Gleitzmann, Dr. J. W., New York.
Gluck, Dr. Isidor, Omaha, Neb.
Goelet, Dr. Augustin H., New York.
Gordon, Dr. Bernard, New York.
Graefe, Dr., Sandusky, O.
Grandin, Dr. Egbert H., New York.
Gray, Dr. Landon Carter, New York.
Griffin, Dr. Henry A., New York.

Hall, Dr. A. L., Fair Haven, N. Y.
Hamilton, Dr. William D., Columbus, O.
Hammond, Dr. Græme M., New York.
Hartwig, Dr. Marcell, Buffalo, N. Y.
Haskell, Dr. C. N., Bridgeport, Conn.
Haslam, Dr. George, Fremont, Neb.
Henry, Dr. J. T., Chester, S. C.
Hogeboom, Dr. Charles L., Cedarhurst, N. Y.
Holden, Dr. Edgar, Newark, N. J.
Holt, Dr. L. Emmett, New York.
Hooper, Dr. Franklin H., Boston, Mass.
Houston, Dr. D. W., Troy, N. Y.
Hubbard, Dr. Dwight L., New York.
Hubbard, Dr. George E., New York.

Imber, Mr. Naphtali Herz, New York.

Jackson, Dr. A. Wilbur, New York.
Jacobi, Dr. A., New York.
Johnson, Dr. Alexander B., New York.
Johnson, Dr. F. M., Boston, Mass.
Johnson, Dr. T. M., Canton, O.
Johnston, Dr. W. H., Birmingham, Ala.
Jones, Dr. Allen A., Buffalo, N. Y.

Kakeles, Dr. M. S., New York.
Kammerer, Dr. F., New York.
Kelliher, Dr. M. W., Pawtucket, R. I.
Kelly, Dr. J. D., Lowville, N. Y.
Kerley, Dr. Charles G., Mount Vernon, N. Y.
Ketch, Dr. Samuel, New York.
Kilmer, Dr. S. L., South Bend, Ind.
Kingman, Dr. R. A., Boston, Mass.
Kirch, Dr. G. W., New York.
Kirkendall, Dr. J. S., Ithaca, N. Y.
Kitchen, Dr. J. M. W., New York.
Kramer, Dr. S. P., Cincinnati, O.

Leaming, Dr. James R., New York.
Leszynsky, Dr. William M., New York.
Lewis, Dr. Daniel, New York.
Lockwood, Dr. George Roe, New York.
Loomis, Dr. Alfred L., New York.
Loomis, Dr. Henry P., New York.
Lowry, Dr. Agnes, San Francisco, Cal.
Lundy, Dr. Charles J., Detroit, Mich.
Lyle, Dr. Alexander, New York.

Macauley, Dr. Berkeley, U. S. Army.
Maghee, Dr. James M., West Orange, N. J.
Maher, Dr. J. J. E., New York.
Mammen, Dr. E., Bloomington, Ill.
Manges, Dr. Morris, New York.
Mann, Dr. F. P., San Francisco, Cal.
Mattison, Dr. J. B., Brooklyn, N. Y.
McCabe, Dr. N., North Platte, Neb.
Meek, Dr. H., London, Ont.
Meierhof, Dr. E., New York.
Meyer, Dr. Willy, New York.
Milliken, Dr. S. E., New York.
Mitchell, Dr. H. W., New York.
Moor, Dr. William, New York.
Moore, Dr. James E., Minneapolis, Minn.
Morton, Dr. William James, New York.
Morrissey, Dr. John J., Hartford, Conn.
Mynter, Dr. Herman, Buffalo, N. Y.

Newell, Dr. Otis K., Boston, Mass.
Newman, Dr. Alvah H , New York.
Nicholas, Dr. G. L., New York.
Noyes, Dr. Henry D., New York.

Oatman, Dr. E. L., Nyack, N. Y.
O'Callaghan, Dr. T. A., Worcester, Mass.
Ogden, Dr. Fred. N., U. S. Navy.
O'Hanlon, Dr. Philip F., New York.
Overall, Dr. G. W., Memphis, Tenn.
Owings, Dr. John H.

Peck, Dr. F. H., Clinton, N. Y.
Peterson, Dr. Frederick, New York.
Phelps, Dr. A. M., New York.
Phillips, Dr. Wendell C., New York.
Pisko, Dr. Edward, New York.
Porcher, Dr. F. Peyre, Charleston, S. C.
Post, Dr. Sarah E., New York.
Powers, Dr. Charles A., New York.
Prettyman, Dr. J. S., Milford, Del.
Proben, Dr. Charles J., New York.
Prudden, Dr. T. Mitchell, New York.

Quimby, Dr. C. E., New York.
Quinlan, Dr. Francis J., New York.
Quintard, Dr. Edward, New York.

Rand, Dr. J. P., Worcester, Mass.
Ransom, Dr. Charles C., New York.
Ransom, Dr. W. J., Lockport, N. Y.
Rice, Dr. Clarence C., New York.
Ridlon, Dr. John, New York.
Riley, Mr. Henry A., New York.
Roberts, Dr. Walter T., Louisville, Ky.
Rockwell, Dr. A. D., New York.
Rodgers, Dr. Harris C., Binghamton, N. Y.
Rose, Dr. A., New York.
Roskoten, Dr. Oliver J., Peoria, Ill.
Von Ruck, Dr. Karl, Asheville, N. C.
Ryerson, Dr. G. Sterling, Toronto, Canada.
Schmid, Dr. H. Ernest, White Plains, N. Y.
Schott, Dr. Theodore, Bad Nauheim, Germany.
De Schweinitz, Dr. G. E., Philadelphia, Pa.
Sexton, Dr. Samuel, New York.
Shrady, Dr. George F., New York.
Siegfried, Dr. C. A., U. S. Navy.
Sinkler, Dr. Wharton, Philadelphia, Pa.
Slocum, Dr. Charles E., Defiance, O.
Small, Dr. J. W., New York.
Smith, Dr. Andrew H., New York.
Smith, Dr. Frank Fremont, St. Augustine, Fla.
Smith, Dr. George K., New York.
Smith, Dr. Gouverneur M., New York.
Smith, Dr. Joseph T., Baltimore, Md.
Smith, Dr. Stephen, New York.
Smith, Dr. William M., Quarantine, N. Y. Harbor.
Spratling, Dr. W. P., Morris Plains, N. J.
Squire, Dr. C. L., Elmira, N. Y.
Stark, Dr. Henry S., New York.
Stedman, Dr. Thomas L., New York.
Stickler, Dr. Joseph William, Orange, N. J.
Study, Dr. Joseph N., Cambridge City, Ind.
Sylvester, Dr. F. E., New York.

Tait, Mr. Lawson, Birmingham, England.
Taylor, Dr. R. W., New York.
Taylor, Dr. Wallace, Osaka, Japan.
Thomas, Dr. John J., Youngstown, O.
Thomas, Dr. T . Gaillard, New York.
Thompson, Dr. J. M., Boston, Mass.
Tuckerman, Dr. L. B., Cleveland, O.
Tyler, Dr. Lachlan, Elkhorn, W. Va.
Tyson, Dr. James, Philadelphia, Pa.

Van Arsdale, Dr. W. W., New York.
Van Dyke, Dr. F. W., Grant's Pass, Ore.
Van Santvoord, Dr. R., New York.
Van Wyck, Dr. R. C., Poughkeepsie, N. Y.
Villari, Dr. E., New York.

Wardwell, Dr. William T. S., Roslindale, Mass.
Warren, Dr. Lillie E., New York.
Warriner, Dr. M. A., Bridgeport, Conn.
Washburn, Dr. W., New York.
Weir, Dr. Robert F., New York.
Wells, Dr. J. Hunter, Portland, Ore.
Wendt, Dr. Edmund C., New York.
White, Dr. John Blake, New York.
White, Dr. W. F., Marysville, O.
Whitman, Dr. Royal, New York.
Wiggin, Dr. Frederick H., New York.
Williams, Dr. A. V., Hot Springs, Ark.
Wood, Dr. H. D., Fayetteville, Ark.
Wood, Dr. Frederick J., Brooklyn, N. Y.
Woodruff, Dr. Charles E., U. S. Army.
Woollen, Dr. Levin J., Washington, D. C.
Wright, Dr. Jonathan, New York.
Wyeth, Dr. John A., New York.

Societies from which Reports have been received.

American Medical Association.
Kentucky State Medical Society.
Medical Society of the County of New York.
Medical Society of the State of New York.
New York Academy of Medicine.
New York County Medical Association.
New York Pathological Society.
New York State Medical Association, Fifth District Branch.
Practitioners' Society of New York.
Tennessee State Medical Society.

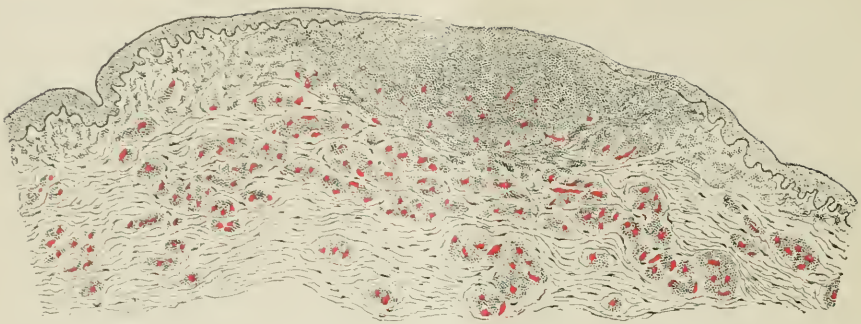


Fig. 1.—Showing the Chancre (at the Right Upper Part) and Small Vessels with the Coat-sleeve Arrangement of the Cell-infiltration in the Deep Connective Tissue under and beyond the Chancre. (Vessels represented by red dots in Figs. 1 and 2.)

Fig. 3.—Showing Dorsal Vein of Penis, which is the Seat of Early Peri- and Endo-phlebitis. (Chancre near glans.)

Fig. 2.—Showing the Coat-sleeve Arrangement of the Cell-infiltration in the Skin, far away from the Chancre which to the Eye looks Healthy.

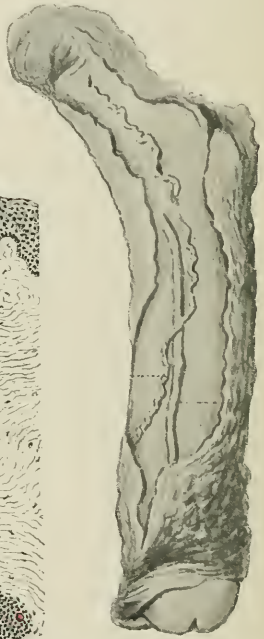


Fig. 4.—Same as Fig. 3. The large cords represent the veins, the more tortuous ones the lymphatics.

THE ABORTION OF SYPHILIS.—Dr. R. W. TAYLOR.

Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 39, No. 1.
Whole No. 1052.

NEW YORK, JANUARY 3, 1891.

$5.00 Per Annum.
Single Copies, 10c.

Original Articles.

THE BRIGHT'S DISEASE OF PREGNANCY,

WITH ESPECIAL REFERENCE TO ITS MANAGEMENT.[1]

BY JAMES TYSON, M.D.,

PROFESSOR OF CLINICAL MEDICINE IN THE UNIVERSITY OF PENNSYLVANIA, PHYSICIAN TO THE HOSPITAL OF THE UNIVERSITY, ETC.

THERE is no subject of greater importance to the practising physician than the nephritis or Bright's disease of pregnancy. Its etiology differs somewhat according as it originates previous to pregnancy or during it, although the cause which makes a previous mild and comparatively harmless nephritis a serious one is the same as that which is responsible for the disease *de novo* during pregnancy. Such agency is the irritant effect upon the renal cells of some toxic substance in the blood, the precise nature of which is unknown, but which probably represents combined excrementitious substances from the mother and fœtus. This is, of course, always present in the blood of the pregnant woman, but it fails to produce its baneful effect on the kidneys of the majority of these for the same reason that the poison of scarlet fever circulating in the blood of its subject fails in the majority of instances to produce nephritis in it. It is, however, always sufficient to produce a serious aggravation of disease in kidneys already affected, as will be seen from what I have to say later.

That the toxic substance is contributed to by some product of the fœtus is shown by the fact that its consequences present themselves usually only in the latter half of pregnancy, when the size of the child is such that its excretions must add materially to those of the mother. That pressure of the gravid uterus upon the vessels of the kidney, as originally asserted by Lever in 1843, is of itself capable of producing nephritis, is claimed by few at the present day. Rosenstein alone, of the better-known authors, held this view in the second edition of his work published in 1870, but I do not know what his present belief is. It is not impossible that in the later stages of pregnancy, pressure may aggravate a nephritis otherwise caused, and of itself be capable of producing a slight degree of albuminuria without nephritis.

That the nephritis of pregnancy in the vast majority of cases is a parenchymatous or tubal nephritis, is *a priori* likely, for the same reason, again, that the nephritis of scarlet fever is a parenchymatous one—that is, that septic matters of this kind as a rule exert their influence upon the renal cells rather than interstitial substance. Accordingly autopsies discover a parenchymatous inflammation in the vast majority of cases, while they also exhibit differences of degree in this process, in fact, every grade between the simple congestion and cloudy swelling of the cells, and an advanced diffuse nephritis, in which the interstitial tissue is also involved. On the other hand, if the patient happens to have had an interstitial nephritis previous to pregnancy, this morbid condition will be found at an autopsy.

The symptoms, too, are the usual ones, and it is not necessary to dwell upon them. Œdema of the face, extending more or less thence over the body, albuminuria, tube-casts, derangements of vision, uræmia manifested in its various ways and especially by convulsions, are the chief, manifested in an order by no means constant. I desire simply to mention in passing, that while a decided majority of the cases of eclampsia in pregnancy are due to renal disease, this is not invariably the case, and there may be convulsions quite independent of such disease and of uræmia. This has been confirmed by autopsy. Albuminuria may even occur in consequence of the disturbances of circulation due to convulsions themselves, as has been amply shown in the case of epileptics, in whom, too, casts of the uriniferous tubules have been found. But that the cases of puerperal eclampsia independent of Bright's disease are exceptional I have taken some pains to show elsewhere.[1]

The diagnosis of the Bright's disease of pregnancy is so easy as to require no notice here, but I may say that it is still too common to allow pregnant women to go to term without examination of the urine.

The prognosis is, however, of such importance as to demand closer attention, especially in connection with treatment, and to this I desire to call attention as the most important part of my paper. In the first place, the acute nephritis of pregnancy is much more serious than acute nephritis from any other cause, while uræmia is the dangerous symptom which is responsible for the fact, so much so that if this danger be escaped the prognosis becomes quite favorable, even more so than in acute nephritis from other causes. Rosenstein has shown that convulsions occur in about one-fourth of all the cases, and that about thirty per cent. of the eclamptic cases die. This mortality, which certainly is not overstated, it seems to me can be diminished, and it was with this in mind that in June, 1889, I read a short paper on the induction of premature labor in the Bright's disease of pregnancy before the Section of Practice of Medicine of the American Medical Association at its meeting at Newport. Although but a year has elapsed since the publication of my paper, and although it has had the benefit of wide circulation of the Association journal, the subject seems to me of such importance that I venture to bring to your attention to-night the essential points of the paper. Scarcely a week passes in which some valuable life is not sacrificed to errors of practice under these circumstances, and this will continue to be the case until the profession is thoroughly aroused to a closer study of the complication in question. In the paper alluded to I called attention to certain conditions or combinations of conditions under which Bright's disease associated with pregnancy demanded that premature labor should be induced to save the life of the patient.

The first of these included cases of Bright's disease complicating pregnancy, in women in whom during a previous pregnancy there were certain grave accidents from the presence of which at one confinement may be predicted their certain recurrence in another. Such are structural changes in the brain as evidenced by paralysis of speech and paraplegia followed by slow return of motor power. Such lesions are sure to be followed by similar and worse ones, which almost invariably proceed to a fatal issue if allowed to go to term. In such, premature labor should be induced as soon as albuminuria appears. Such a case was related where I made the mistake of advising the husband to wait until more active symptoms

[1] Read before the Northern Medical Society of Philadelphia, November 28, 1890.

[1] The Causal Lesions of Puerperal Convulsions. A paper read before the Pathological Society of Philadelphia, April 28, 1878, and published in its Transactions.

presented themselves before interfering and inducing premature labor. The more active symptom was so speedily followed by death that there was no chance to interfere.

The second category included all primipara in whom Bright's disease existed before marriage. These cases in my experience are invariably fatal if allowed to go to term, and I strongly disadvise marriage when I am aware of the presence of Bright's disease, however well the patient may seem. Such advice is not, however, always followed, and in many more instances the patient and physician are alike ignorant of the previous presence of the disease. It is, of course, a proposition difficult to sustain, but I am inclined to believe that many more cases of fatal puerperal eclampsia in primipara than suspected have been women who have had Bright's disease before marriage, and ridiculous as it may seem, at first thought, I have no doubt that if the urine of every girl were examined before marriage some lives would be saved; first by persuading her on discovering the disease to give up the idea of marriage, and second by providing a treatment in the event of pregnancy occurring. In these cases premature labor should be brought on as soon as conclusive symptoms, such as increased albuminuria, tube casts, decided dropsy, or severe headache make their appearance. Some delay may be permitted if the viable age be not too distant, but any attempt to carry such cases to term has in my experience had but one issue, and that a fatal one.

Third, I think premature labor *may*, with propriety, be induced—and note I do not say should unvariably be induced—in pregnancy complicated by Bright's disease where signs of a renal affection complicating a previous labor persist after such labor, even though the patient passed safely through the ordeal of labor. Here, too, pregnancy should be avoided, but it is often next to impossible to prevent its occurrence.

The question as to when labor should be brought on is not so easily answered. For it is not impossible for such a case to go to term and even to be delivered without accident, while the explanation is not difficult. There can be no doubt that the long-continued presence of a Bright's disease, if it remains at a stand-still or increases but slowly, results in a degree of accommodation of the organism to its presence. This is brought about by an increased action of organs which are complemental to the kidneys, namely the skin, lungs, and bowels. This existing, the additional work thrown upon the kidneys during pregnancy is supplemented in larger proportions by these organs and the danger is lessened; while immunity is still further favored by the greater ease of the multiparous labor. Hence, as stated, no definite rule can be laid down, but such cases demand the closest attention and utmost vigilance of the practitioner, and should large albuminuria and dropsy associated with intense headache and scanty secretion of urine be present, or the slightest sign of uræmia make its appearance, labor should be brought on regardless of the viability of the child. More frequently, perhaps, viability may be awaited with safety. A saving clause in the history of these cases is that they are very apt to miscarry, and thus save their own lives, and in the paper alluded to I gave the history of two women in whom labor was thus spontaneously terminated and risk to life averted. One of these patients has since died of the further development of her disease without having again become pregnant.

Finally, there remains a set of primipara in whom Bright's disease, if it makes its appearance during pregnancy, is almost sure to be fatal, and this includes women married late in life. The first question which suggests itself is, of course, what age would be named as marking such a period? Nor is it easy to answer in absolute terms, but this much may be said: If a woman who attains the age of forty before marriage, becomes pregnant, and acquires Bright's disease she is almost certain to perish in her confinement, while the danger is scarcely less two years younger; and when it is remembered that in all primipara Bright's disease, whether acquired before or after pregnancy, is an extremely dangerous complication, it is but reasonable that women at thirty-five under these conditions should be watched with the extremest solicitude.

It may be said that my catagories include practically almost all cases of Bright's disease in pregnancy. This is sufficiently near the truth to make it worth while to formulate a statement covering cases in which pregnancy may be complicated with Bright's disease and which go to term without accident. Such are the pregnancies of multipara who have not had Bright's disease in previous pregnancies. These are not infrequent and doubtless many here present will recall cases of this kind which they have carried to a favorable issue. It is these cases which are apt to be remembered and quoted in justification of non-interference in the Bright's disease of pregnancy, but it will be noted that none of them fulfil the conditions I have named. It is not altogether easy to explain in every case why thus immunity should occur. Some doubtless are saved by the ease and celerity with which multiparous confinements are often accomplished. For there is no doubt but that the straining and other phenomena incident to prolonged labors tend to produce an accumulation of whatever it is which often explodes in a convulsion and its sequelæ, even, as already stated, independent of Bright's disease; but what it is that saves these women from serious symptoms almost up to the hour of confinement while in the other cases the dangers assert themselves so much earlier, is not so easy of explanation. In the matter of multipara as compared with primipara it may be that through previous pregnancies the economy acquires a facility of excretion through organs complemental to the kidney, but so far as I know no proof of this exists. The fact remains, however, a significant one. And why pregnancy succeeding Bright's disease should be so much more dangerous than a Bright's disease supervening on pregnancy, in other words why damaged kidneys plus pregnancy should be worse than pregnancy plus damaged kidneys, as seems to be the case, I am unable to explain.

It remains to point out briefly the treatment which should be adopted in cases where it is concluded to attempt to prolong gestation to the viable period or the end of pregnancy. To keep up elimination and thus to prevent the over-accumulation of toxic substances in the blood is, of course, the first indication. And while the kidneys present themselves as the natural channel through which this is to be accomplished they are seldom sufficient, and the bowels become the next, and indeed often the first and most convenient medium. Especially should constipation be avoided, while a brisk purge has often averted a uræmic attack. Continued looseness of the bowels is a safety valve which in these cases can scarcely be abused. The skin is also a serviceable medium for elimination, and is continuously availed of by warm woollen clothing next the skin, the effect of which is increased by the uniform temperature of the bed. Daily warm or hot baths, according as to which may be found more efficient, increase this effect, while the simple spirit of nitrous ether in full doses is a double agent acting upon the kidneys as well as most efficiently favoring the action of the skin. Jaborandi or its active principle pilocarpin in small doses, just enough to keep up a gentle but constant action of the skin, is also valuable. The hot-air bath or vapor bath may also be used with excellent effect. These are cases, too, in which a diet of pure milk or milk diluted with water or carbonic-acid water diminishes the dangers with which the patient is threatened.

When uræmia actually sets in any or all these agencies, except possibly jaborandi, may be employed in increased doses if available, but whatever may be the hesitation of inducing premature labor previous to its appearance there should be none after it; and I can emphasize the conclusion of my paper with no more truthful or appropriate words than those of Bartels,[1] who says, "the treat-

[1] In Ziemssen's Cyclopædia of Practical Medicine, English translation, vol. xv.

ment of eclampsia during labor should be guided by the experience which has taught us that the dangerous accidents cease entirely in nearly one-third of all the cases as soon as the uterus is emptied." While this is being carried out the dangers of the convulsion may be diminished by blood letting, by chloroform, and by chloral. Blood-letting is needed almost without exception in every case of uræmic puerperal convulsions, and many a case is lost through its omission. As soon as it has been carried out as far as seems safe or judicious chloroform or chloral should be called into play to control the convulsion; or one or the other may be used simultaneously with the bleeding. Under no circumstances is the action of chloral more happy, and the rectum affords a medium of administration as prompt and efficient in its operation as the mouth, which is generally unavailable for the purpose. No less than a drachm in solution should be given at such a time by enema, and it is unwise to temporize with smaller doses.

THE REALITY OF RABIES.[1]

By CHARLES L. DANA, M.D.,

PROFESSOR OF NERVOUS AND MENTAL DISEASES, NEW YORK POST-GRADUATE MEDICAL SCHOOL, NEW YORK.

MR. PRESIDENT: I cannot speak upon the subject of rabies from the stand-point of an experimentalist, and my only apology for accepting the invitation to join in the discussion to-night is that I have been an interested student of the question for a number of years. During the past summer I have visited the Pasteur Institute in Paris, where Messrs. Pasteur and Grancher courteously gave me opportunities of observing the work going on, and of learning their present views upon the subject of the pathology and prophylaxis of rabies. Through the kindness of Mr. Horsley, of London, also, I was furnished with some interesting original documents, as well as a series of photographic studies illustrating the classical and pathological aspects of the disease. M. Paul Gibier, of this city, has also kindly shown me the workings of his laboratory, which, I am bound to say, compare favorably with those of the Paris Institute.

There is still a great deal of scepticism in regard to rabies, its nature, its frequency, and even its existence. There is also a great deal of scepticism and even hostility felt toward the work of Pasteur upon this subject.

In view of this fact it seemed to me that I could not better employ my time in this discussion than in attempting to show what has, in my opinion, been settled in regard to these points.

I shall, therefore, take up the question of the reality and specific character of rabies in lower animals and in man. This will naturally involve a consideration of the pathological aspects of the disease, and to some extent the principles upon which prophylactic inoculations are based.

The Tests of the Specific and Distinct Character of a Disease.—In order to prove that a certain disease is autonomous, distinct, and special we must establish the fact that its etiology and its clinical history are essentially uniform, or that the anatomical changes found after death are the same, or that inoculations of animals with the secretions or tissues of the victim of the disease reproduce the disease. The proof of the unity of a disease is therefore etiological, clinical, anatomical, and experimental. The unity of some diseases can be established by only one or two of these methods, not by all. In the case of rabies, a comparatively rare and obscure disorder and occurring in lower animals, so that only objective symptoms can be studied, it is imperative that all the proofs should be brought into use, and fortunately this can be done.

I. **The Etiological and Clinical Proof** of the existence of the disease rabies is based upon the fact that different observers in every part of the world, from the time of Cornelius Celsus, Galen, and Aurelian to that of John Hunter (1793), Youatt (1830), and Hertwig (1829), and many distinguished living writers have all united in describing a disease in the dog having essentially the same origin, symptoms, course, and termination. It is not my purpose to enumerate these distinguishing characters. It is sufficient to say that in them should be included the mode of infection, the period of incubation, the mental excitement, the tendency to bite, the emaciation, acute course, the convulsive and paralytic phenomena, and the invariably fatal termination. But the clinical proof of the existence of rabies is not alone sufficient either to establish it as a specific disease or to make a diagnosis of it in a particular instance. It has long been known that symptoms resembling rabies may be caused by enteritis, worms, metallic poisons, by farcy, and organic diseases of the central nervous system.

It is true the symptoms when taken in their entirety are generally sufficient for diagnosis. Among 207 dogs pronounced rabid or probably rabid in Würtemberg in 1865–1866, 108, or about fifty per cent., were found to be really so. And Bollinger [1] estimates this as representing about the accuracy of a professional diagnosis, it being remembered that physicians and veterinarians are always anxious to be upon the safe side.

It follows from the foregoing that those who state that alleged cases of rabies in dogs may be cases of some other disease are stating what no one has ever denied.

Having carefully read the account of Spitzka's experiments [2] as to this point it appears to me that he simply showed that symptoms resembling rabies may be caused by meningitis or cerebritis, which no one has denied. Apart from this the experiments have no bearing on the question of rabies at all, and they certainly do not weaken the value of careful experimental tests for rabies made either upon rabbits or dogs.

II. The Anatomical Proof of the Specific Character of Rabies. Pathological Anatomy of Rabies.—It is not believed by M. Pasteur and his associates that there are any definite characteristic lesions of rabies.

If any were present they would be found chiefly in the medulla and spinal cord.

As a matter of fact there are found here very uniformly minute changes which consist of accumulations of round cells in the perivascular spaces, forming what has been termed a miliary abscess. These so-called miliary abscesses are most numerous in the later stages of the disease. They may not be found at all in the early stage; and since, in the case of man, the disease usually kills very soon, fewer changes are found in the human nerve-centres. In paralytic rabies in man, however, these changes are more decided and widely diffused.[3] They are always most marked in the medulla, next in the spinal cord, and last in the brain. If patients with rabies lived long enough we could say, therefore, that anatomically rabies is multiple focal bulbar myelitis. Miliary abscesses, however, are not characteristic of rabies alone, but are found in other diseases, especially infective fevers and meningitis.

A number of other changes, such as softenings, congestions, minute hemorrhages, etc., have been described as occurring in rabies. Golgi has described peculiar changes in the nuclei of the nerve-cells of the medulla. A microbe which can neither be colored nor cultivated can be seen in the brain tissue in rat rabies,[4] and Babes has described a microbe which Gibier states is identical with the one he has figured. The proof of its specific character is yet wanting. No one has certainly found a microbe, although rabies is probably a microbic disease. And the symptoms of rabies are caused not by any organic change in the nervous tissues, but by a profoundly irritant poison, the product of the microbe's activity.

[1] Read in part at a meeting of the New York Academy of Medicine, October 16, 1890.

[1] Ziemssen's Cyclopædia, iii., p. 469.
[2] Journal of Comparative Medicine, July, 1886.
[3] Barstow and Horsley: Transactions of the Clinical Society of London, November, 1888.
[4] Gibier: La Rage, 1884.

This poison acts first upon the nerve-cells and fibres and only later does it affect the vascular apparatus.

The anatomical evidence as to the existence of rabies

Sections from the medulla of rabbits which have died of paralytic rabies showing dilated vessels, accumulation of leucocytes in perivascular spaces, beginning of miliary abscess. Different enlargements. (Horsley, Boyce

is, therefore, mainly a negative one. By it we can exclude meningitis, encephalitis, hemorrhages, injuries, etc. There are incidental anatomical changes which help in forming a particular diagnosis, but are not essential parts of the disease. Such are the presence of abnormal substances in the stomach, hyperæmia, and hemorrhagic extravasations in the stomach, congestion of the larynx, fauces, etc.[1]

III. The Experimental Proof. — This may be put briefly in this way:

1. The virulence of the poison of rabies was found by Pasteur (as it had been by others) to be chiefly in the medulla, cord, and brain.

2. Animals are made rabid generally by subcutaneous inoculation of this virulent nervous tissue; but they are practically always made rabid by subdural inoculations after trephining.

3. Rabbits inoculated in this way develop a paralytic form of rabies which has a very definite incubation, fifteen to twenty-one days, very characteristic symptoms, course, and termination.

4. This disease in rabbits, called paralytic rabies, is true rabies, because dogs inoculated with its virus develop after a normal incubation true rabies.

Thus by establishing the existence and symptomatology of rabbit rabies, and by furnishing a means of always and easily producing it, Pasteur has given us an experimental test of the disease which can be applied with comparative ease. Pasteur experimented still further with the virus of rabbit rabies and reduced it to the most definite conditions. He found that by continued successive serial inoculations of the rabbit the period of incubation after a time was reduced invariably to six or seven days, the rabbits dying on the ninth to eleventh day. He thus fixed the intensity of the virus and the symptomatology of the disease absolutely.

In the Pasteur Institute are ten different cages, each containing an inoculated rabbit. The rabbit in the tenth cage is just dying. That in the first has just been inoculated. Between them one sees rabbits in each stage of paralytic rabies. There is a mathematical precision about the development and course of the disease which affects one with admiration and arouses afresh a confidence that there are laws and certainties in medical science.

In the light of all the evidence thus presented, it seems to me that no one can any longer deny the specific inoculable character of rabies. Further discussion with those who deny it will serve no good purpose. It is, indeed, only in regard to the significance and value of Pasteur's experimental tests that doubts and criticisms still are circulated. Those who distrust Pasteur, however, will find that his work has been abundantly confirmed elsewhere.[2]

Professor A. Högges, of Budapest, has recently published a monograph ("Die Experimentale Basis der Antirabischen Schutzenfungen Pasteur's," Stuttgart, 1889) which includes experimental work patiently carried on for four years and which entirely confirms the value of this inoculation test of rabies. Dr. Dowdesdell,[3] and Mr. Victor Horsley have repeated and verified the tests. So also have, in Italy, Di Vertia and Zagari,[4] and, in this country, Ernst,[5] Shakespeare, and Biggs. There is now, so far as I can learn, universal acceptance of this experimental test by all pathologists who have carefully employed it, or examined the work upon which it is based.

Does the Specific Disease Rabies Occur in Man? — I have spent a good deal of time upon this point, because its establishment is the key to the whole question of the reality of rabies in man, and to all the practical points regarding its prevention. It is unnecessary now to

[1] The engorgement of the stomach of a dog with foreign indigestible substances is considered in connection with other symptoms almost pathognomonic of rabies (Law). It is certainly very rare to find such substances in the healthy dog's stomach. In some experiments made by myself (American Journal of Medical Sciences, 1882) on the action of pepsin I examined the stomach contents of nearly forty dogs and never found foreign matter in them.

[2] The work of Dr. V. Babes is well known. Stud. über die Wuthkrankheit, Virchow's Archiv, Bd. lx., Hft. 3, p. 562.

[3] Lancet, 1887.

[4] La Semaine Méd., 1887.

[5] American Journal of the Medical Sciences

go over at any length the second question as to the occurrence of genuine rabies (hydrophobia) in man. I do not know that such occurrence is seriously doubted by scientific men anywhere. Yet I am justified in taking up the point, since doubts and denials are expressed not only in certain prominent medical journals but in discussions on the subject in the lay press. Wide circulation, especially, has been given to the statement that rabies in men is not a specific inoculable disease,[1] but a more or less incidental result of bite and fright, of trauma, hysteria, tetanus, meningitis, or insanity.

The proof that a specific inoculable disease known as rabies or hydrophobia affects man is furnished us by the four criteria I have already given, viz. : (1) the etiological; (2) the clinical; (3) the anatomical; (4) the experimental. This last is again conclusive and puts the fact as much beyond questioning as any point in medical science can be placed. The medulla and cord of men who have died from rabies due to the bite of a dog have been inoculated subdurally in rabbits, and paralytic rabies is produced with only a difference in the period of inoculation. The course and termination are identical with that caused by inoculating rabbits with the virus from a rabid dog. These experiments have been done by different observers in different parts of the world. The accounts of them can be read in the communications made by Pasteur and others in the "Annals de l'Institut Pasteur," in the report of the British Parliament Committee in 1877, and in the "Transactions of the London Clinical Society, November. 1888," and in numerous other papers.

Many doubt the existence of human rabies because they have never in a long experience seen a case. Rabies in man is undoubtedly a rare disease in this part of the country, but cases are constantly occurring here and there. Within six months two cases were brought to Bellevue Hospital. The frequency of the disease in general is not to be estimated by its occurrence in America. Its prevalence in Europe is very considerable, as has been shown by the records collected by Bollinger before Pasteurism began, and by later writers.

Pasteur's work has called attention also to the fact that a paralytic form of rabies sometimes affects man, producing symptoms resembling acute ascending paralysis, or Landry's paralysis. It is not impossible that cases of this disease have been in reality of rabietic origin. In questioning the many general practitioners from various parts of the country with whom I come in contact, I have found that many could recall cases of mysterious acute, progressive, fatal paralyses, whose nature and cause have completely puzzled them. It may be that the paralytic rabies in man is, therefore, not such an extreme rarity. Gamaleia,[2] Ygouff,[3] Ufridizzi, Bristowe and Horsley,[4] and Surgeon-Major Keegan have all reported cases of paralytic rabies in man.

In the attempt to discredit Pasteur and disprove the existence of human rabies a great deal has been made of pseudo-hydrophobia, or lyssaphobia, and of its alarming frequency and extraordinary dangers. All the old-wives' tales illustrating the power of the imagination to disorder and annihilate the body have been rhetorically rehearsed, and a fear of hydrophobia has been supplanted by a fear of the fear of hydrophobia, so that good people are shivering in terror over an innocuous shadow while they smile incredulously at the fatal substance.

As a matter of fact there are no authentic clinical records of a single case in which fear of hydrophobia has caused a disease measurably similar to rabies, by which I mean a disease not easily distinguished from rabies by an intelligent physician.[5] Nor is there, so far as I can find, a single authenticated case of death from this particularly hypothetical phantasm.[6]

The imagination alone cannot fatally inhibit the vital functions; the *psyche* cannot suddenly destroy itself by creations of the imagination, any more than the *soma* can without help commit *auto da fé*.

The legend of the man who died because he was told that he was being bled to death, while in fact a stream of warm water was allowed to trickle along his arm, ought to be laid away with the ancient and inane myths. It is not historically authenticated and it is psychologically impossible. Bear in mind that I am speaking of the effect of imagination upon healthy bodies. No doubt fright can kill a person who is already toppling on the verge of the grave, or who has a weak heart, or but one lung, or who is ripe for an insanity. But as for hydrophobic fright inducing an acute and fatal disease in strong men or healthy women, it is inconceivable.[1]

Prophylaxis.—Closely connected with the subject of the specific character of rabies in man and the lower animals, comes the question of the production of immunity from its horrible and fatal effects. I shall leave any elaborate argument on this question to others, but I cannot forbear bringing up some points, since they are so intimately woven in with the line of argument I am trying to pursue. The establishment of the specific inoculable character of a disease gives a presumption in favor of the power of securing immunity from it, for in the great majority of specific diseases the animal body either naturally possesses or may acquire immunity. This is true of all or nearly all the non-suppurative infections, from syphilis to small-pox. As regards animals, it seems to me that no one who carefully reads the evidence given in Pasteur's communications can deny that by his method he succeeds in rendering dogs refractory to the bite of other rabid dogs, also to subcutaneous and even to subdural inoculations of the virus of street rabies and of the "fixed virus;" also that even after subcutaneous inoculations of this virus or after infecting bites, he can prevent the development of the disease. His experiments have been reported in detail, and have been followed by such experienced laboratory workers as Lauder Brunton, Mr. Horsley, and Dr. Burdon Sanderson.

Besides these they have been repeated and confirmed by Ernst, Babes, Högyes, Bujwid, Di Vestia and others.

Much has been made of the experiments of Von Frisch, of Vienna, who alone, so far as I know, failed to get the same results as Pasteur. But his failure is easily explained. The rabbits used by him were smaller and the cords lost their infective properties too soon, while he himself failed to operate aseptically. Instead of continuing his experiments with the desire to eliminate these sources of error, Frisch stopped his work and announced, much to the satisfaction apparently of the Viennese world, that the method was a failure. And Billroth said, "French science is advancing with a club foot," and only two papers out of nearly a hundred were read by Frenchmen in the Section of Internal Medicine at the Berlin International Congress.

Now Professor Högyes had at first the same experience as Frisch, but he continued his work and finally succeeded in making the dogs refractory to rabies.

It may be admitted that the process is not always cer-

[1] Dulles: MEDICAL RECORD, 1877, p. 672.
[2] Vide Ann. de l'Institut Pasteur. [3] Thèse de Paris.
[4] Transactions of the London Chirurgical Society, 1888.
[5] Dr. Ernst's case of spurious rabies, cited at the discussion of his subject, exactly proves this point.
[6] Romberg cites a fatal case of lyssaphobia from Trollert, but there is no evidence that the trouble was not either true rabies or acute alcoholism, since the symptoms developed directly after a spree and three and a half months after a bite. Another very ancient and doubtful case of fatal lyssaphobia is reported in the memoirs of the Royal Society, of Montpellier. It is curious that modern literature furnishes no fatal cases; and that those who speak so fluently of it have never reported a case.

[1] There have been perhaps fatal cases of tetanus following bites of dogs, and there have possibly been fatal cases of acute mania generated in the predisposed by the fright. These extremely rare and doubtful instances will explain the fatal cases of so-called pseudo-hydrophobia.

It is but just to say that in the discussion on this question the distinguished chairman asserted that as one result of the discussion it had been proved that there was such a thing as false hydrophobia and that this disease had been fatal.

I did not deny that false hydrophobia occurred, but only that it was not like true hydrophobia, and was easily distinguished from it. No one reported an authentic case of fatal lyssaphobia.

tain or absolutely perfect. Of this others can speak with much more authority than myself; but the essential principle has been established as immutably as anything in biological science.

Thus it seems to me, in conclusion, that the following points are established with regard to rabies :

1. Rabies is a specific inoculable disease. It occurs not only in lower animals but in man ; and the etiological, clinical, anatomical, and experimental tests all unite in proving that rabies is the same specific disease in whatever animal it occurs.

2. The experimental test of the disease by subdural inoculation of rabbits with nervous tissue is a certain method (barring the natural accidents of surgical experimentation) of determining the existence of rabies in a given case.

3. The most constant anatomical change in rabies is a multiple focal bulbo-myelitis. This condition is found in man if life is prolonged.

4. The paralytic form of rabies may occur in man, assuming somewhat the type of Landry's paralysis.

5. The virus of rabies resides chiefly in the nervous centres and can be rendered definite in action by carrying it through rabbits.

6. Dogs and other animals can be rendered refractory to rabies by protective inoculations.

7. Spurious hydrophobia is rare, non-fatal, and easily distinguished from true rabies.

HYDROPHOBIA—ITS CLINICAL ASPECT.

By LANDON CARTER GRAY, M.D.,

PROFESSOR OF NERVOUS AND MENTAL DISEASE OF THE NEW YORK POLYCLINIC.

When it became my official duty, as Chairman of this Neurological Section, to provide some subject of general interest for one of the general meetings of the Academy, I could think of no available one more opportune than hydrophobia, as the startling claims of Pasteur, and the multiplication of his so-called institutes throughout the world, have awakened fresh interest in a disease that has excited the curiosity and the fear of mankind from time immemorial. Moreover, the sensationalism of the newspapers about every fresh bite of an animal, and the uncertainty of physicians who have seen only one case or none at all, would be additional reasons for a discussion of this kind.

At the very threshold of the subject we are confronted by the question as to whether there is such a thing as rabies,[1] or hydrophobia. There has been much and bitter discussion upon this point during the last few years. Those who would answer this question in the affirmative allege as proof the fixed belief of ages, and the many epizoöties of which we have historical record. The very earliest writers speak of rabid dogs, and they were known as far back as the days of the Asclepiadæ, the descendants of the God of Medicine, Æsculapius ; while there are very few parts of the world, whether in the tropics or the arctics, in which an outbreak of it has not been described at some time or other. At times it has raged with great fury, as in Northern Germany from 1851 to 1856, when at Hamburg alone 600 cases were observed among dogs, 267 occurring in the year 1851. In England, in 1856, it raged severely among dogs, and in a herd of deer, destroying nearly one hundred of the latter. In Wurtemberg, according to the veterinary professor Hering, from January 1, 1840, until the end of February, 1842, it affected two hundred and thirty dogs and twenty-one bitches. In 1866 there were thirty-six deaths from hydrophobia reported by the Registrar-General of Great Britain. It has never been very prevalent in this country, although local epizoöties of it have been reported from time to time. It is stated that it is now raging in a herd of deer belonging to the Marquis of Ipswich.

In almost all of these epizoöties human beings have been bitten by the rabid animal and have died, although it has never been spread from one human being to another as it has done in animals. It would seem, therefore, to be conclusively proven that there is a disease which can rapidly exterminate a kennel of dogs, a flock of sheep, a drove of hogs, or a herd of deer, and which can render the timid skunk, badger, and fox ferocious and dangerous, and make of the wolf a beast of prey as fierce as a royal Bengal tiger. It would also appear to be conclusively proven that many people have died after being bitten by these rabid animals. But there has sprung up in this country, in the last few years, a small number of very decided opponents of these claims, such as Spitzka, Brill, Dulles, Stockwell, and others; and, unless I am very much mistaken, they have voiced to some extent the feeling of scepticism that prevails among American physicians. In the first place, they say, many mistakes are made in diagnosis, so that animals are said to have rabies when in reality they have some one of many disorders that may cause similar symptoms, such as epilepsy, angina or sore throat, gastritis and enteritis, distemper, foreign bodies in the mouth and throat, tetanus, worms in the frontal sinuses or in the small intestines, and ulceration of the internal ear. In certain countries, extending from the sources of the Vistula to the Carpathian Mountains, there is endemic a disease known as the "Plica Polonica," attacking mankind, horses, cows, sheep, wolves, foxes, and dogs, in the latter closely resembling rabies, although the bite of these animals is not followed by hydrophobia. Spitzka has introduced into the skull cavities of dogs such non-rabic material as the spinal cord of a healthy calf, common yellow soap, and stale horse's urine, producing a purulent meningitis and meningo-encephalitis, and the symptoms of dumb rabies. Miller has reported three cases of seeming rabies in the cow, in which clusters of the parasite known as strongylus tetracanthus were found in the intestines. It is not unreasonable to suppose that the bite of an excited animal may be very dangerous, as it is an elementary fact in physiology that the secretions of the human female breast are at times fatal to the child. My friend, Dr. E. F. Brush, informs me that one of the earlier Borgias obtained a subtle and most dangerous poison by dipping a ring in the saliva of a hog which had been hung up and kept excited to a blind fury for a long time. The variations are almost incredible that are alleged to exist in the period of incubation of hydrophobia. Fleming states that the average in England has been from thirty to fifty-nine days. According to Tardieu, it may vary from one month to twelve. Trousseau says that it may run from a few days to a year. In Algiers it varies from twenty to two hundred days. Sauvage speaks of a peasant who was suffering from the most pronounced hydrophobic symptoms on the third day after being bitten by a mad wolf. Chirac tells of a merchant who was bitten by a mad dog at Montpellier, afterward resided ten years in Holland, and was suddenly attacked by hydrophobia on his return to France and learning of the death of a brother cadet who had been bitten by the same animal. Finco, of Padua, narrates the case of a young woman who became hydrophobic fourteen years after receiving a wound from a rabid dog. Even Gowers states that the period of incubation is longer and more variable than that of any other known acute specific disease, and

[1] There should be considered briefly some details of nomenclature about which much confusion prevails. By usage the term rabies is given to the disease in the animal, while the malady in man is termed hydrophobia. This was so stated in Fleming's book in 1872, and has since been adopted by the standard dictionaries and writers. I see no reason, however, why it should not be called rabies in the human subject. The disease was termed lyssa by the Greeks, meaning a worm, a term given to the frænum of the dog's tongue, which was supposed in the early days to be a worm, and was extirpated as such. This superstition lingered even as long as the early part of this century, when a Russian physician, by the name of Marochetti, claimed that in all cases of hydrophobia pustules appear under the tongue at a certain time of the incubation of the disease. The German writers still retain this name of lyssa. The spread of an infectious disease among animals is called an epizoöty (from ἐπί, upon, and ζῷον, an animal) ; just as the spread of an infectious disease in the human being is called an epidemic (from ἐπί, upon, and δῆμος, the people).

believes that many well-authenticated cases have occurred eighteen months after the wound. This extreme variableness in the period of incubation lends credence to the belief, firmly held by many competent observers, that death from fear can occur with symptoms closely resembling the true disease. These are the cases of so-called lyssaphobia or hydrophobia.

Although a recent writer has characterized such a belief as childish, it is yet a matter of clinical observation that great psychical shock can produce mental disease and death.

I have a patient in whom an attack of melancholia of eighteen months' duration was caused by her lover being suddenly thrown from his horse and killed before her eyes. I know of another case in which a woman's husband, who had been supposed lost at sea, suddenly appeared before her, when she became speechless, mumbling, and, preserving only consciousness enough to gently caress his face for a few hours, sank into a coma and died. A patient of mine with transverse myelitis, who had improved greatly, was much frightened by his room catching fire, and in a few hours he became delirious, and within twenty four hours he was dead.

I have under my care at the present moment a stalwart, resolute young man, to whom the Secretary of the Treasury has just presented one of those rare medals of gold that are only given to those who save a life at imminent danger to their own; and this man, notwithstanding he had nerve enough to plunge into the raging surf to rescue a fellow-being, has not been able to do a day's work since, suffering from those well-known symptoms which Oppenheim describes as traumatic neurosis, and which occur so frequently after railroad accidents. If these instances be not sufficient, a perusal of Tuke's book on the influence of mind on the body ought certainly to convince any impartial mind that such an overwhelming fear as is that of hydrophobia is quite sufficient to induce death, the more especially as a number of suicides have been committed from this very dread. Very few men in this city of New York, or, indeed, in this country, have seen a case of hydrophobia. Indeed, one of the great difficulties that I have encountered in arranging this debate has been that there is not a neurologist in New York City who has seen more than one case in his own practice, although some few have seen two or three cases at the great hospitals, while many men of great experience have seen none at all.

For my part, in an experience of twenty years as student and practitioner, I have never seen but one case, and, to be guilty of an Hibernianism, I would not swear to that. In this city of New York, from 1855 up to the present time, the number of deaths from hydrophobia have been as follows, according to the figures very kindly furnished to me by Dr. John T. Nagle, viz.: 1855, 4; 1856, 3; 1857, 2; 1858, 0; 1859, 2; 1860, 0; 1861, 5; 1862, 1; 1863, 3; 1864, 1; 1865, 3; 1866, 2; 1867, 4; 1868, 1; 1869, 5; 1870, 3; 1871, 7; 1872, 6; 1873, 0; 1874, 5; 1875, 0; 1876, 5; 1877, 4; 1878, 2; 1879, 0; 1880, 0; 1881, 3; 1882, 1; 1883, 1; 1884, 1; 1885, 0; 1886, 0; 1887, 1; 1888, 0; 1889, 1.

Thus, in a period of time covered by thirty five years, there have been seventy-six deaths, in nine of these years there have been no deaths, and it has twice happened that for two years at a time there was not a death. One of the deaths in 1874 is that of a man who was bitten by a dog supposed to be rabid, and a coroner's inquest was held, the cause of death being stated to have been lyssaphobia. I come in contact with many physicians from different parts of this country, and it is very exceptional to have one tell me that he has ever seen a case of hydrophobia.

From this necessarily cursory review of the *pro* and *con* of the subject, we may draw the conclusion, I think, that frequent mistakes are made in the diagnosis of rabies and hydrophobia; that death can be caused by the fear of the disease; that the symptoms of the so-called dumb rabies may be caused by simple purulent meningitis and meningo-encephalitis; and that very few cases of either rabies or hydrophobia have been observed in New York City or in the country at large. Admitting all this, however, the question still remains as to whether there is a true rabies or a true hydrophobia. For my part, I believe that there is a disease running a fatal epizoötic course in the dog and other lower animals, and capable of being communicated to the human being and causing death, although the evidence of this will rest mainly upon the pathological and experimental considerations which will be presented to you by Dr. Dana, Dr. Biggs, and others. Whether you call this rabies or something else is a matter of entirely secondary consideration.

If we may trust the present writers upon the subject, the symptoms of furious rabies in the dog are as follows: Alteration in the animal's demeanor, so that it becomes sullen, shy, and restless; hallucinations of sight, so that imaginary objects will be bitten or snapped at; strange and erratic movements, indicative of mental aberration; transition from obedience and affection to semi delirious outbursts, or to frenzy and fury; irresistible tendency to roam, so that great distances may be covered in a surprisingly short time; great tendency to bite; greatly increased salivary secretion, which becomes thicker and more viscid; a peculiar howl, which is described by Fleming as being neither a bark, howl, growl, nor snarl, but a curious jumble of all—the howl being predominant; finally exhaustion, paralysis, and death. In dumb rabies there is the characteristic paralysis of the lower jaw, so that the dog is incapable of either eating or drinking, or of closing the mouth; sometimes also a certain amount of tumefaction of the pharynx and tongue, and finally paralysis of the extremities and death. In so-called tranquil rabies the animal is in a condition of coma. None of these animals show any aversion to water, contrary to the popular belief.

The symptoms in the human being consist at first of general malaise, mental depression, slight insomnia, and some vague distress about the throat. Attempts at drinking occasion pharyngeal spasm, which spreads to the muscles of respiration, causing a short, quick inspiration like that of a sudden effusion of cold water, this increasing in severity to a strong inspiratory effort, in which the extraordinary muscles of respiration take part, so that the shoulders are raised, and even the facial muscles may draw the angles of the mouth outward. Reflex excitability is enormously increased, the slightest cutaneous impression bringing on a spasm. Salivary secretion is much increased. Vomiting is common. The muscular spasm, confined at first to the muscles of deglutition and respiration, may spread to the other muscles of the body, and the convulsions may become general, causing continuous general muscular rigidity, or opisthotonos, or they may be co-ordinated and closely resemble the hysteroid variety. Delusions may occur, or even wild delirium. The differential diagnosis in the human being is from tetanus, especially when it is endemic, as on Long Island, from that form of organic brain disease known as delirium grave, from acute mania, from tetanilla, from epilepsy, from hysteria. There is no such dread of water as to warrant the term hydrophobia, as many of even the recent writers would have us suppose; but the spasm of the muscles of deglutition at the sight of water is only a part of the general reflex excitability, as is shown by the fact that glittering objects, loud noises, draughts of air, may cause the same spasm, or kindred ones, in other muscles. In many cases there is a curious alternation of consciousness with furious action. Thus, a patient begs the bystanders to go away, as he fears he may do them damage; or, as Dr. Ernst tells me that a patient of his did, a man may fly at the throat of an attendant, saying, "I can't help it!" The temperature ranges from 100° to 104° F., or, exceptionally, 106° F. Remissions are frequent. Death is sudden or by gradual coma. Paralysis does not generally

occur, although it has been stated that paralytic symptoms similar to those of acute ascending or Landry's paralysis may occur; but as there is only one case to support this claim, and as this one—a man named Goffi—had been inoculated by Pasteur's intensive method, and died notwithstanding, it needs no eminent logician to perceive that the probability of the symptoms having been caused by Pasteur's intensive inoculation is much greater than the probability of their having been caused by rabies.

HYPNAL, THE NEW NERVINE.[1]

By J. B. MATTISON, M.D.,

BROOKLYN, N. Y.

MEMBER OF THE AMERICAN ASSOCIATION FOR THE CURE OF INEBRIATES; OF THE NEW YORK NEUROLOGICAL SOCIETY; OF THE MEDICAL SOCIETY OF THE COUNTY OF KINGS.

I HAVE the pleasure of offering you to-night a therapeutic novelty—the only supply in America, so far as I know, of hypnal, specially imported for me—and giving you an account of my trials with it, which is, so far as I am aware, the first presented in this country.

Tersely told, hypnal is the product of combining equal parts of hydrate of chloral and antipyrine. It is an oily liquid of ether odor and chloral taste. Brought out last year in France, by Blainville, it was noted later by Behal and Choay, who found three distinct compounds, one of which was worthless; the others were called monochloral antipyrine and bichloral antipyrine. Reuter, testing one, gave it the dreadful name of mono-tri-chloral-acetyl-dimethyl phenyl-parazolone, and declared it inert. He, however, used the non-active product. Dr. Bardet, of the Cochin Hospital, made the first medical experiments, and—Heaven bless him!—called it hypnal. He reported twenty-two cases in which one-gramme (fifteen-grain) doses acted well as a sedative, soporific, and anodyne, and especially useful in insomnia due to cough or pain.

Frankel—whose paper in the September number of the *Bulletin gén. de Thérapeutique* is the latest from foreign sources — after thirty-three trials, wrote in its favor. Schmidt commends it; so, too, Quintard.

The consensus of opinion among continental observers is that hypnal is an efficient sedative, soporific, and analgesic; it is more hypnotic and less depressing than chloral; it is not caustic like chloral nor irritant like antipyrine, and it is more readily taken, being more tasteless than either.

On respiration it is much like chloral; on circulation it is less disturbing than chloral. It is antipyretic, and non-irritant by mouth, bowel, or skin. It is said to be particularly adapted to children, and to patients with phthisis, lessening fever, pain, insomnia, and unrest. Schmidt found that fifteen grains equalled, in sleeping effect, about nine grains of chloral.

The dose named by writers noted is fifteen to thirty grains. I have given fifteen to sixty by mouth, double if by bowel, and fifteen hypodermically. It can be given in capsule or solution—preferably the former. If the latter, twice the amount of alcohol should be added to the elixir or syrup. By bowel, in gum arabic. Subcutaneously, direct. Convenient formulæ:

℞. Hypnal ..... ℥ xv.
Alcohol ..... ♏ lx.
Elixir or syrup ..... ad ♏ ccxl.
M. Sig.: One dose; one-third tumbler water after.

℞. Hypnal ..... ℥ xxx.
Mucilag. acaciæ ..... ʒ j.
M. Sig.: One injection

℞. Hypnal ..... ♏ xv.
M. Sig: One dose, hypodermically.

[1] Read before the Medical Society of the County of Kings, October 21, 1890.

I have used hypnal in 16 cases. The result has been: success, 10; partial success, 2; failure, 4. By failure is meant no relief from pain or insomnia; by partial success, limited or delayed sleep; by success, four to six hours' slumber. The dose has ranged from sixteen to sixty grains, in capsule or solution. Once it was given, fifteen minims, subcutaneously. The age of patients varied from twenty-eight to forty-nine years. One was a nervous, hysterical female, a ten years' taker of morphine hypodermically, eighteen grains per diem. All were exopium habitués, the extent of their daily morphine-taking varying in amount from six grains by mouth to eighteen grains subcutaneous; and in duration, four to twenty seven years. This last point is a weighty one, for expoppy habitués are notoriously insomnic.

The first dose—five minims—was taken October 1st, by myself, to determine its hypodermic eligibility. No ill result followed. It gave rise to an aching pain, short—not sharp, like antipyrine—followed by a numbness, which, in part, persists. One patient, male, aged twenty-eight, a four years' hypodermic morphine-taker, sixteen grains per day, was given, October 12th, on the eighth night of his opium abstinence, fifteen minims in the thigh. The same ache, with swelling, but no abscess, resulted, and a small anæsthetic area remains.

The hypnal never caused vomiting or nausea. Once vertigo was noted. No effect on heart or lungs. Three times—fifteen minims subcutaneously, or thirty minims by mouth—it made an unrest so great, and no sleep, that hyoscin. hydrobrom. or chloralamid was required to quiet. The average wait for sleep was sixty-six minutes; the extremes fifteen minutes and three hours and a half. The longest sleep was six hours, the shortest two. In no case was relief from pain noted without sleep. Following failure, thirty grains chloralamid promptly brought slumber. Compared with the latter—which, *en passant*, I think *the* hypnotic—thirty grains hypnal have less power than a like amount of chloralamid. As an anodyne, sedative, or hypnotic it is less effective than a combination of phenacetine and chloralamid.

The making of antipyrine being controlled by one party, under patent, which does not expire till 1906, hypnal will not come into common use, as the price is too high, my supply costing forty eight cents per drachm to import.

Through the courtesy of Dr. Edwin Reynolds, Attending Physician to the Brooklyn Home for Consumptives, four trials were made on phthisical patients. The results were *nil*. It should be said, however, that minimum doses only were used, and that the patients were such as would not warrant him in giving chloral, nor an increase of hypnal.

This is the hypnal record:

Case I.—Male. Thirty minims by mouth; asleep in sixty-five minutes; slept four hours.

Case II.—Male. Fifteen minims by mouth; asleep in sixty minutes; slept six hours.

Case III.—Female. Thirty minims by mouth; no sleep; very restless all night.

Case IV.—Male. Thirty minims by mouth; asleep in seventy minutes; slept five hours and a half.

Case V.—Male. Fifteen minims by mouth; asleep in sixty-five minutes; restless before sleeping; slept five hours and a half, with quarter-hour break.

Case VI.—Male. Fifteen minims hypodermically; no sleep; increasing painless unrest for three hours; then $\frac{1}{50}$ grain hyoscine hydrobrom. subcutaneously, with prompt quiet and sleep.

Case VII.—Male. Thirty minims; asleep in thirty minutes; slept steadily six hours.

Case VIII.—Male. Thirty minims; asleep in thirty minutes; unbroken sleep six hours.

Case IX.—Male. Thirty minims; awake and restless three hours; then thirty grains chloralamid, and four hours' sleep.

Case X.—Male. Thirty minims; sleepless unrest two hours and a half; then two hours' quiet sleep.

Case XI. – Male. Thirty-eight minims; asleep in seventy minutes; slept three hours and fifty-three minutes; awake five minutes; then forty five minutes' sleep; four hours and forty minutes in all.

Case XII.—Male. Thirty-eight minims; awake three hours; quiet when awake; then thirty grains chloralamid, and prompt four hours' sleep.

Case XIII.—Male. Forty-five minims; awake and restless two hours and three quarters; then sound sleep three hours and a half, with after report, "feeling better than for four years."

Case XIV.—Male. Forty-five minims; asleep in fifteen minutes; slept two hours; awake five minutes; then slept three hours and a half—five hours and a half in all; very quiet when awake, with morning report, "feeling unusually well."

Case XV.—Male. Forty-five minims; sleepless unrest three hours and a half; sound sleep two hours; quiet after.

Case XVI.- Male. Forty-five minims; awake two hours and ten minutes; then slept three hours and a half, with after calm.

My experience with hypnal warrants these conclusions:

Hypnotic—Fifteen to sixty minims, in most cases, efficient.

Sedative The same dose, in most cases, effective.

Analgesic—Opinon reserved.

POSTERIOR RACHITIC CURVATURE OF THE SPINE.[1]

By SAMUEL KETCH, M.D.,

NEW YORK.

It would be invidious on my part to bring before this body the description of such a well-known deformity, were it not for the fact that its clinical significance has, in my experience, been so often misunderstood. Believing, as I do, that one of the functions of the specialist is the diffusion of knowledge relating to his own particular line of work, and that this Association is a centre for such dissemination, I have taken the liberty of bringing the subject of posterior rachitic curvature of the spine before you.

Of the several deformities of the spine, whose underlying cause is found in the condition known as rachitis, the ones most commonly seen in practice are the lateral and posterior. With the first class, namely, the scoliotic, I shall not deal here, except to state that generally they are developed at a later period than the curvature, the subject of this article.

The etiology and pathology of posterior rachitic curvature of the spine are essentially those of rickets in general, the deformity being simply one of the local manifestations of a general diathesis. The causation, to my mind, is largely mechanical, and furthered by such movements tending to throw the weight of the body on the weakened vertebræ and their appendages. Rachitis of the vertebræ evinces itself, as does rachitis usually, at a very early period of life, by an irregularity in the processes of ossification, by cartilaginous enlargements, and by a marked diminution of the harder substances entering into the bone formation, notably the lime salts. In consequence of this unstable condition of the rachitic vertebræ, we find in the long axis of the spinal column many soft places, in some cases including the upper and lower surfaces of all the vertebræ, in others localized to a few. Thus the physiological firmness of the column being markedly weakened, we find a more or less extensive curvature present, depending on the number of vertebræ involved. It must not be forgotten that the other tissues—the muscles and ligaments necessary to the integrity of the column—are also involved in the rachitic process, and by their weakened action also add to the formation of the deformity.

With these few words regarding the anatomico-pathological factors, I shall at once proceed to a consideration of the clinical features, with which it is intended that this paper shall principally deal. I am quite certain that most every surgeon has at times been puzzled by the occurrence of a case which united in a marked degree the symptoms of both a rachitic kyphosis and one of inflammatory origin due to caries of the spine. It has been stated that, as a rule, the rachitic curve is a general one, embracing the whole length of the spinal column, and that a differential diagnosis in these cases was not a difficult one. However, in looking up the cases presenting at the New York Orthopedic Dispensary, I have found that the majority show a limitation of the curve to the dorso-lumbar spine, a very favorite position for the occurrence of Pott's disease. United with the localized curvature, we often have associated symptoms which closely imitate those presenting in the inflammatory cases. Thus, in addition to the deformity, we may have, in greater or less degree, pain, spinal rigidity, a pseudo-paralysis, or any of the distinctive symptoms relating to the area of disease. The pain of caries of the spine is usually so characteristic, and in the dorso lumbar region so uniformly anterior or antero-lateral, that apparently error regarding this symptom would seldom take place. It must be remembered, however, that patients the subject of rachitic kyphosis are usually very young—from one to three years old—and that they are unable to locate their sufferings accurately. That pain is not an unusual symptom in rachitic children is a well-known fact, and in many instances so acute as to prevent any handling of the patient. It is, however, general in character, and expressed by touching any part of the body, not being limited to any circumscribed spot. Again, this pain may so interfere with the muscular expression of the disease, the patient involuntarily stiffening up on attempts at examination, as to obscure the normal flexibility, and thus deprive us temporarily of a valuable diagnostic sign. In most cases of rachitic kyphosis the deformity partially or entirely disappears on placing the patient in the prone position, and there is an entire absence of that sharp, reflex muscular spasm, so characteristic on motion, and only found as the result of inflammatory bone disease. The stiffness met with in rachitic curvature due to pain may be overcome by gradual force, after allowing the patient to keep in one position for a time. Nothing short of anæsthesia will overcome the reflex muscular spasm of the bone trouble. Again, where we have a caries in the dorso-lumbar spine, we are, as a rule, able to demonstrate the presence of either unilateral or bilateral psoas contraction, which in my experience never occurs in the purely rachitic curvature. As before observed, there are cases of rachitic curvature which do not entirely disappear in the prone posture, but they are generally seen in old cases of rickets, where organic change has occurred, and are unaccompanied by muscular spasm or pain. It is not intended that this paper shall deal with either the posterior curvatures of adolescence or old age.

In connection with the rachitic deformity we are often confronted with a condition of muscular weakness so pronounced as to simulate very closely the paraplegia met with in Pott's disease. The child may already have begun to walk, when suddenly it begins to get weak in its lower extremities, and this is soon followed by an entire inability to stand. The child is "taken off its legs," or "has lost its walk," the mothers say. In other cases the child has never stood alone, nor does it make any attempt to walk. The patient, on being examined and the curvature discovered in connection with the supposed paralysis, grave apprehensions of organic spine disease are entertained. That this pseudo paralysis is not uncommon, and may be very deceptive, is proven by the fact that Berg has seen it often enough to write a monograph on the subject. This muscular weakness is not a localized

[1] Read at the Fourth Annual Meeting of the American Orthopedic Association, held at Philadelphia, September 16, 17, and 18, 1890.

one, being but another symptom of the general condition. It gives none of the characteristic electrical reactions of a true paralysis, nor do we find the consistent exaggerated tendon reflexes accompanying a pressure paralysis. Again, it is a rare thing for a paraplegia to accompany a caries of the spine when the disease is located in the dorso lumbar region, the favorite position of a posterior rachitic curve. It is always a puzzling symptom, however, and well calculated to deceive the inexperienced or superficial examiner.

I have attempted, in rather a cursory manner, to show the identity of some of the symptoms met with in posterior rachitic curvature, and also Pott's disease of the spine, and have also endeavored to demonstrate briefly the more important differential points. In closing this part of the paper, I should state that the presence of a rachitis does not preclude the simultaneous existence of a caries of the vertebræ, and that such cases are not infrequently observed. Lastly, the examination of the entire body for evidences of rachitis should never be omitted, for in the enlarged skull, beaded ribs, flattened epiphyses, etc., valuable testimony is afforded toward a diagnosis of posterior rachitic curvature.

I know of no class which are, as a rule, so amenable to treatment, and in which such grateful results may be obtained, as in those under consideration.

But I should like to protest, right here, against the very extensive prevalence of the opinion, so often given by medical men, and especially in connection with rachitic deformities, that patients will "grow out of them." Undoubtedly some cases do get well without apparent treatment, but I do not think that we are as yet in the position where we can tell positively which cases will, and which will not recover in this manner; and until such time of accurate prognosis arrives, the patient deserves the benefit of the doubt. Again, these are the class of cases in which we almost always promise a recession of the deformity, and I think that some of the marvellous cures of supposed organic kyphoses, the result of caries, were in reality puzzling cases of posterior rachitic curvature.

The treatment of posterior rachitic curvature is best embraced under three headings, namely, the general, postural, and mechanical or local, in most cases a combination of the three being advisable. Under the head of general treatment are included the hygienic, dietetic, and medicinal agents employed. I will not detain you by a lengthy account of any especial agents, as they are more in the province of the medical attendant, and undoubtedly well known to you. I should like to state, however, that my main reliance has been placed in sunlight, fresh air, the patient being in the recumbent posture, and on phosphorus and cod-liver oil internally, as well as inunctions of the latter.

In very young children, from one to two years of age, I never advise the use of mechanical supports. The tissues of these patients are so unstable that any pressure is apt to be badly tolerated, and bad sloughs easily produced. In this class the constant recumbent position, with fresh air and sun-baths, together with internal treatment and close attention to the diet, is usually sufficient.

In all cases the condition of the bowels, the urine, and the skin should be carefully inquired into. When the children are somewhat older, and beyond the more acute stages of the malady, the question of mechanical support becomes more pertinent.

Much has been written, and with some show of truth, against the use of braces in rachitic spines, and constant recumbency advised. While this latter measure is easily enough carried out in very young children, it is not so in older ones, and it is certainly better to have a child enjoy the sunlight and fresh air and exercise, with a light, well-fitting support, than to add to its already imperfect general condition the confinement necessary to one position. I confess that the indiscriminate use of apparatus, such, for instance, as are applied directly by and through the advice of instrument-makers, is to be deprecated, and the patient should only wear such supports as are constructed by the advice and under the immediate supervision of the educated orthopedic surgeon. Any apparatus having the antero-posterior leverage principle will afford efficient support. It is alone necessary that they should be light, easily adjusted, and capable of modification by the surgeon. I have personally used, with great satisfaction, a modification of the Taylor spinal brace, without the hinged pad-plate. I believe, however, the choice of apparatus, and the success attained, depend largely on the surgeon's familiarity with it.

ELBOW-SPLINT AND SHOULDER-CAP COMBINED.

By W. S. CHEESMAN, M.D.,

AUBURN, N. Y.

As a means of immobilizing both shoulder and elbow in cases of fracture at the elbow-joint, or between it and the shoulder, I have long made use of the splint whose pattern is sketched in Fig. 1. As others to whom I have shown it have also found it very useful, I make no apology for describing and recommending it.

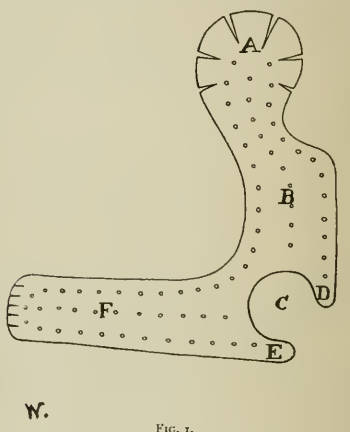


Fig. 1.

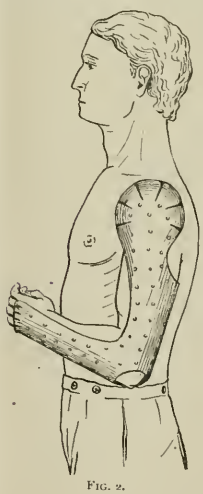


Fig. 2.

It is cut out of a single piece of tin, and its essential advantage is that it combines a shoulder-cap and a right-angled elbow-splint. In cases where shoulder and elbow must be put at rest, both these splints should be used in some form or other. It is inconvenient to splice them over a patient's arm, so the combination was made to meet the end in view.

The outline is sketched with any sharp instrument on the flat tin, the distance from A to C equalling that from the shoulder-point to the olecranon. The parts F and B are then bent (the direction of the bending depending on which arm is to be dressed) and the points D and E are riveted, a hole being thus left for the olecranon. The shoulder-cap A is made in the usual way by notching the edge deeply and bending the segments over. Their edge may be enveloped in a strip of adhesive plaster, which gives a smooth, circular rim. If desired, the whole circumference may be thus

made pleasant to handle. Perforations made with a nail and hammer, from within outward, give sharp projections which hold the bandage from slipping. The whole is lined with cotton batting. In cases of fracture of the humerus it may be necessary to employ also coaptation splints.

Fig. 2 shows the splint in position.

Clinical Department.

THE "POTATO CURE" FOR FOREIGN BODIES IN THE STOMACH.

By EDWARD PISKO, A.M., M.D.,

NEW YORK.

On the morning of December 6, 1890, an urgent call came to me to see a child, aged eleven and one-half months, which had swallowed a one-inch screw. Upon my arrival I found that the screw had passed into the stomach, so I thought it hardly possible to extract it immediately. The child was apparently well and lively, playing with the other children. In spite of the tender age of the patient and the fact that it had hardly been weaned from the mother's breast, I ordered the "potato cure." It was given potatoes in every form, and white bread dipped in milk, but absolutely no liquid food. The same evening there was a passage, and another one the following afternoon, and on the third day the baby passed urine twice, but had no passage from the bowels. The general condition was satisfactory. In spite of the abnormal food, the child played the entire day, and slept soundly every night. After the fourth day I prescribed a laxative in the evening, and during the night the screw passed spontaneously and without producing any pains, enveloped in fæces. After the evacuation of the screw, there was no injury to the stomach, no catarrh of the bowels; the child remained in its normal condition, the mishap having apparently affected its health in no way.

I mention this case to instance a successful result of the "potato cure," and also because of the interesting fact that, in spite of the unusual regimen, no visible reaction took place in an infant which had just been weaned from the mother's breast.

In connection with this case in my private practice I would like to add a few remarks about the "potato cure." Cameron, of Glasgow, relates a method which has been practised for years by English thieves, who put away all kinds of articles when caught in the act of the thieving by swallowing the same, and then they eat a great quantity of potatoes, until they rid themselves of the articles swallowed. The potato cure was first experimented upon by Billroth, of Vienna, in whose clinic I had the opportunity of watching the cases of a cook who had swallowed a part of her set of artificial teeth, of a boy who had swallowed a weight of twenty grammes, and of a girl, aged nine, who had swallowed a sewing-needle. In each of these cases the "potato cure" was applied with very flattering results. In 1886 I saw the following case in Albert's surgical clinic (Vienna): A boy, six years of age, who two years previously had swallowed a nail, which at that time was removed by gastrotomy, was brought there again with a nail (6 ctm. long) in his stomach. This time the "potato cure," which had been introduced in the meantime, was used, with the result that on the ninth day the nail made its appearance per vias naturales.

THE TREATMENT OF HERPES ZOSTER.

By MATTHEW BEATTIE, M.D.

NEW YORK.

The treatment of herpes zoster, as recommended in works on general medicine, is of no value in retarding the progress of the disease. The principal drugs mentioned are anodynes and sedatives, and the "galvanic current to allay pain." I therefore submit the following for arresting and curing this very painful disease.

Internally:

℞. Ext. gelsem. ..... fl. ʒ j.
Sod. sulphocarbolat. ..... ʒ j.
Aquæ ..... ad. ℥ iij.
M. Sig.: ʒ j. every two hours.

℞. Tr. belladonnæ ..... ʒ ss.
Sig.: Five drops every two hours until throat begins to feel dry.

Externally:

℞. Plumbi acetas ..... ʒ j.
Alum (pulv.) ..... ʒ j.
Aquæ ..... ad. ℥ iv.
M. Sig.: Apply to painful part every two hours.

On October 28, 1890, I was first called to see Mrs. W——, of West Fifty-fifth Street, and found her with a well-marked vesicular eruption, with a very red, inflamed base. The neuralgia was so severe that the patient was unable to sleep. The eruption was situated in the lumbar region and extended around the left side from the spine to the median line of the abdomen.

At the expiration of eight hours the patient was comfortable, and by November 1st (three days after my first visit), the eruption began to appear dull and the disease was positively undergoing a decline. At the end of six days the whole seat of the disease was free from pain, and the dried-up appearance of the vesicles and the falling off of the same indicated that the above treatment had been successful.

SEPARATION OF THE CONDYLOID EPIPHYSIS OF THE FEMUR.

By JOHN H. OWINGS, M.D.

E. T——, girl, aged ten years, poorly nourished and frail. On August 29, 1890, about 4 P.M., I was called to see this child, and learned that she had had her left leg caught in a wagon wheel and had suffered a fracture of the knee, with laceration of the soft parts.

Dr. Minshall was sent for, and upon placing her fully under the influence of an anæsthetic and examining the wound, we found that the condyloid epiphysis had been separated from the diaphysis, and that the shaft of the femur had lacerated the soft parts and was protruding through the integuments fully five inches.

Amputation was advised, but owing to the absence of the father in an adjoining town, the strenuous objections of the mother, and the fact that the injury had been received several hours before, and that reaction had not fully taken place, an attempt to replace the bone and make her as comfortable as possible was consented to by myself and Dr. Minshall.

An attempt was then made, only to result, to our surprise, in utter failure, to get the femur into its proper position. Dr. Douglas, who was near by, was then called in, and upon his arrival our efforts were again renewed, only again to prove futile.

By this time our patient had been under the anæsthetic fully one hour, and its beginning to have a bad effect, I advised an amputation of the end of the bone, which being concurred in by my confrères, I at once removed three-fourths of an inch of the shaft, which allowed it to be replaced easily.

My reasons for suggesting the removal of the end of the bone were fourfold. In the first place, it seemed utterly impossible to replace it; secondly, if we should ultimately succeed in replacing it there would be a possibility of wedging some one of the blood-vessels or nerves in between the epiphysis and shaft, which would be a very serious occurrence; thirdly, the fact that a good deal of periosteum had been torn off; and fourthly, believing that ossification would more likely take place if the smooth end of the diaphysis was removed, so that the

spongy portion could come in contact with the epiphysis, and therefore more likely for union to take place.

The peculiar stellate radiations of the end of the shaft were found to be perfect, except the right upper or anterior portion, which had been ground off against the hub or spokes of the wheel.

The wound, into which an ordinary orange could be inserted, was well washed with bichloride solution, and the external wound closed by ten silk sutures. Iodoform was well dusted over the parts, antiseptic dressings applied, and the limb, after flexion at hip and knee, so as to overcome the contraction of the muscles, was placed upon a pillow and left until the morrow; morphia sulph. (¼ grain) was given, and sulph. quinine (1 grain) ordered every four hours. At ten o'clock P.M. I relieved the bladder (which was causing some distress) with the catheter, and left the patient in comparatively a comfortable condition.

On the morning of the 30th the father returned, and insisted that if there was any chance of saving the leg in any condition whatever, that I should take that chance.

There being but little literature upon the subject at my command, and knowing full well that many remarkable cures had been effected, in all kinds of fractures of the lower limbs, by the use of Professor N. R. Smith's anterior wire splint, I determined to at least make the attempt and take chances.

The anterior splint of Smith was applied and the leg swung from the ceiling. At the time of the application of the splint, four o'clock P.M., the temperature was 101½° F., pulse, 130; ordered bowels evacuated by glycerine suppository.

August 31st, 8 A.M.: Bowels moved during the night. Temperature, 100⅘° F.; pulse, 116.

September 1st, 8 A.M.: Temperature, 99½° F.; pulse, 105, but intermittent; ordered tincture digitalis, 5 gtt. every four hours, quinine continued. The swelling is subsiding, patient cheerful, and suffering little if any pain.

September 2d, 8 A.M.: Pulse, 100; temperature, 99° F.; heart acting better.

September 3d, 8 A.M.: Pulse, 100, temperature normal, wound not sloughing, swelling subsiding; removed one suture to give wound chance to drain more readily, as we had not inserted a drainage-tube. Bowels not moving, ordered hyd. chlo. mite, grs. iv.; pulv. rhei, grs. v., to be taken at once.

September 4th, 7 P.M.: Pulse, 116; temperature, 101½° F.; some sloughing.

September 5th, 5 P.M.: Pulse, 108; temperature, 101° F.; bloody serum oozing from wound; removed one suture.

September 6th, 5 P.M.: Temperature, 100⅘° F.; pulse, 120; three sutures removed to day.

September 7th, 8 A.M.: Pulse, 106; temperature, 99½° F.; two sutures removed.

September 8th, 8 A.M.: Pulse, 100; temperature normal; considerable pus discharging from within wound; removed remaining sutures and applied rubber adhesive strips to prevent wound from gaping.

From this time on until October 25th, my little patient did remarkably well, suffering but little or no pain. The wound sloughed a good deal, but under the influence of a ten per cent. boracic acid with lanoline ointment healthy granulation has taken place, and the wound has filled up and cicatrization is taking place.

Desiring to know something of the result that I might expect, the wire splint is removed cautiously, and an examination of the joint made. There is comparatively no infusion of the joint proper, and some motion.

I now apply an anterior copper splint with starched bandage, and independent bandage over flesh wound.

November 14th, anterior splint removed, and one applied extending only four inches below and four inches above the patella. The wound is nearly healed; union has taken place, and there is considerable motion of knee-joint; she has been up on crutches for some time.

December 1st, flesh wound healed, crutches have been laid aside, good firm union and motion obtained with only about one inch of shortening, and my little patient walks with a cane, with very little limping, and with a firm elastic step and a good, sound leg.

Progress of Medical Science.

Femoral Salpingocele.—Dr. Von Tischendorf recently read before the Leipzig Obstetrical Society the notes of an interesting case of femoral salpingocele (*The British Medical Journal*). The patient was an elderly woman, who was operated on on account of symptoms of strangulated femoral hernia. The sac, previous to operation, appeared to contain omentum, but when opened it was found to contain the left Fallopian tube, which was much enlarged in consequence of œdema. Close to the ostium was a prominence about the size of a cherry, caused by dilatation of its walls. This prominence fitted into a corresponding depression in the hernial sac. Both tube and sac were removed, and the patient made a good recovery. Dr. von Tischendorf stated that he could only find four cases of a similar nature reported in medical literature.

The Management of the Menstrual Epoch.—Dr. A. W. Parsons, of Northampton, Mass. (*New York Medical Journal*), says: "During the past few months I have adopted a procedure which has afforded me the heartfelt gratitude of every woman who employs it. For obvious reasons its use will be largely confined to married women. A full-sized tampon of antiseptic absorbent cotton, to which a string is attached, is inserted into the vagina through a speculum as soon as the premonitory symptoms of the approaching menstrual epoch are noted. It may be left *in situ* for twenty-four hours, unless the uterine discharge begins, when it should be removed as soon as it is saturated, and the vagina washed out with a warm antiseptic solution by means of a fountain syringe, and a fresh tampon introduced. This procedure should be continued until the flow ceases. The principal disadvantage of this method is the difficulty of using the speculum and preparing and introducing the tampon; but I have met with no case where one or two lessons did not teach the woman the *modus operandi*. Its advantages are many. There is entire absence of odor, no necessity of wearing the napkin, and the sense of support to the uterus afforded by the tampon is immediate, and exceedingly grateful."

The Origin of the Amniotic Fluid.—According to Dr. Nagel, despite the industrious researches in this matter opinions are now at greater variance than ever. Gusserow bespoke favorably the theory of Portal, that the fœtus possesses the property during intra-uterine life of elaborating a urinary secretion and excretion. The conversion of benzoic acid into hippuric acid was considered sufficient proof of the functional activity of the fœtal kidneys, but this procedure of Gusserow is open to the possibility, as stated by Ahlfeld, that the conversion of benzoic acid into hippuric acid was accomplished by the placenta; although Diihrssen found in six cases that the placenta contained benzoic acid and no hippuric acid. It lies in the nature of things that the investigations of various authors embrace only the behavior of the fœtal kidneys during the last days and hours of pregnancy, and the conclusions to be drawn from such procedures are by no means satisfactory. That the kidneys may play a very insignificant rôle during intra-uterine life is proven by Ahlfeld, from the fact that, in cases where both organs are wanting, the fœtus develops uninterruptedly to the end of gestation, without the developmental anomalies going beyond their local domain.

The amniotic fluid present in such cases cannot, of course, originate in the fœtus, but it is not quite tenable to conclude that the functional activity of the kidneys under normal circumstances is unnecessary to the origin of the amniotic fluid. Nature compensates for many profound anomalies of development. It is important to subject the urinary organs—that is, the primitive and permanent kidneys—to a closer scrutiny during their first development; the researches have heretofore only taken in the condition of these organs during the latter part of pregnancy. The majority of authorities are inclined to the opinion that in the first part of pregnancy, before the development of the placenta, the amniotic fluid originates by transudation from the maternal vessels; it has hitherto been impossible to demonstrate urea in the amniotic fluid of the first months. Dr. Nagel suggests another source for the amniotic fluid—the Wolffian bodies; the latter present, during their entire existence as independent organs, the anatomical characteristics of secreting organs in full activity, justifying us in considering them as important elements in embryonal nutrition. The author then discusses at some length the anatomy of the Wolffian bodies, and illustrates his investigations with several fine plates. He concludes that at the beginning the permanent kidneys possess great similarity, in the formation of their glomeruli and the simple characteristics of the urinary tubes, to the Wolffian bodies, and that they suffice in this form to supply all the demands of metabolism at this stage of pregnancy; the human kidney is, therefore, capable of functionating in the second month of gestation, and the same applies, says Nagel, to the Wolffian bodies at a previous stage. He states that the amniotic fluid, even in the beginning of pregnancy, is in part a product of embryonal metabolism. Beginning with the subinvolution of the Wolffian bodies, the kidneys gradually assume the function of the former; for a time, before the primitive kidney has disappeared, both the provisional and the permanent organs functionate synchronously, so that the renal activity is not suddenly assumed by the kidney; before the sphincter vesicæ is so far developed as to permit the existence of a urinary bladder, the secreted urine at once flows off into the amniotic fluid.—*The American Journal of Obstetrics*, November, 1890.

Amount of Sugar in Blood in Disease.—Dr. N. P. Trinkler recently read, before the Kharkoff Medical Society, a paper on the "Diagnostic Significance of the Quantity of Sugar and Reducing Substances in the Blood," in which he detailed a number of observations he had carried out on patients in Professor Grube's surgical clinic, the majority of whom were suffering from cancer (*The Lancet*). The blood of some was taken for examination during an operation, that of the rest being only obtained after death. The examination was in all cases made by means of two processes, that of Fehling and Soxhlet, and that of Knapp (Knapp's solution consists of cyanide of mercury dissolved in caustic alkali), the mean of the two results being taken. He found that the blood during life always contains less sugar than after death, and that that of persons suffering from cancer contains a larger proportion of sugar and reducing substances than that of healthy persons, or of persons suffering from other diseases. Affections of internal organs appeared to be accompanied by a greater percentage of sugar in the blood than diseases of the skin or of external parts. The degree of emaciation produced by cancer did not seem to have any direct effect upon the quantity of sugar in the blood. There did not seem to be any real correspondence between the amounts of sugar and other reducing substances; the sugar was much more constant in its amount, the quantity of the other reducing substances being liable to very considerable variations. In the observations made on various diseased conditions the following were the amounts of sugar found: Cancer, 0.1678 per cent. to 0.2037 per cent.; typhoid fever, 0.0950 per cent.; pneumonia, 0.0943 per cent.; dysentery, 0.0838 per cent.; organic diseases of the heart, 0.0737 per cent.; peritonitis, 0.701 per cent.; phthisis, 0.0653 per cent.; syphilis, 0.0553 per cent.; nephritis, 0.0489 per cent.; hæmaturia, 0.0375 per cent.

Thyroid Grafting in Myxœdema.—The association which exists between removal or atrophy of the thyroid gland and myxœdema has suggested to some enterprising foreign surgeon to try the effect of transplanting portions of the thyroid gland in patients suffering from this malady. Mr. Horsley has shown that it is quite possible to graft the thyroid on the peritoneum in certain animals, and M. Lannelongue has attempted to apply this treatment to the case of a little girl afflicted with myxœdema. The thyroid gland of a young sheep was implanted on the child's thorax just below the right breast and took a firm hold, though whether the success of the operation will have any ultimate effect in checking the further progress of the disease time alone can determine.—*Medical Press.*

Malarial Fever and Eucalyptus Drainage.—The planting of eucalyptus trees for the purposes of draining the soil in malarial districts is one which has met with some success. The Trefontane Convent at Rome had become positively uninhabitable, owing to the malaria which attacked—in many instances with fatal results—its inmates. Senator Torelli presented a bill proposing that the estate annexed to the convent should be planted with eucalyptus as an experiment against malaria. The bill was passed, and the Trappist monks planted thousands of eucalyptus plants of all species on the estate. But still the malaria raged, and several monks suffered severely. It was, however, remarked that it was only the monks who had their cells looking on the central cloister who fell victims to the malaria. This suggested the idea of planting four eucalyptus trees at the four corners of the cloister. The plants, sheltered from the winds, soon grew to a great height. The immediate result was the complete draining of the soil in the cloister, and the disappearance of malarial fever from the convent.—*British Medical Journal.*

The Use of Hypodermic Injections of Caffeine in the Treatment of Post-partum Hemorrhage.—Dr. Misrachi highly recommends the use of injections of caffeine in cases of post-partum hemorrhages where rapid assistance is necessary, and especially when the physician first reaches the cases after there has been already considerable hemorrhage. Especially in country practice this remedy may be of great value, particularly as it is possible for the physician to have under his care cases of diphtheria or erysipelas, and to have been unable to produce such complete disinfection as would warrant the insertion of the hand. According to the author, caffeine acts more rapidly than ergot, and produces a more effective result even than ether, although the latter is a more rapid stimulant. He administered it in the form of a solution, of which a hypodermic syringeful would contain four grains of caffeine, and gave three or four injections at once—in other words, injects hypodermically about sixteen grains of caffeine. He employs caffeine rendered soluble by the benzoate of sodium, equal parts of each being dissolved in warm water. The author claims that this remedy so employed produces most remarkable results in arresting bleeding and in acting as a stimulant, and that, therefore, benzoate of sodium and caffeine in small packets should always be carried by country practitioners.—*Therapeutic Gazette.*

Experiments with Orexin.—Dr. A. Beckh describes a series of experiments with muriate of orexin. The experiments were conducted in the medical ward of the city hospital of Nuremberg, and were begun soon after those of Penzoldt. Orexin was administered to twenty two patients who suffered with loss of appetite from various

causes. A good effect was produced in seventeen cases; in one case the result was doubtful, because it was difficult to decide whether the patient's loss of appetite had been simulated or not; and in four cases the remedy failed completely. It was given to patients with anæmia, chlorosis, and tuberculosis, and to some with anorexia produced by different acute and chronic diseases. In two cases of chronic disease of the stomach it was given with very good results. At first orexin was administered in gelatin-coated pills, and later in capsules—which is the preferable way. Beckh began with doses of four or five grains a day, which were increased, as required, by the third day to seven and a half grains. A larger dose than this was not given, and a large glass of meat-broth or milk, or a plate of soup, was always taken by the patient in addition. In a few cases disagreeable effects, such as burning in the stomach, and vomiting, were noticed. Beckh concludes that orexin is worthy of further experimentation as a stomachic, and that it is to be recommended in anæmia and tuberculosis. It may also be employed with caution in chronic diseases of the stomach, but not when there exists anatomical change in the mucous membrane, as the drug is a strong irritant. For the latter reason also it must be given with a certain quantity of fluid, preferably meat-broth or soup.—*Medical and Surgical Reporter.*

Action of Living Blood on Bacteria.—Professor Bonome has recorded the results of his researches on the following points: Whether physiological alterations in the blood play any part in modifying its destructive action on bacteria; whether it is possible to produce alterations in the composition of the blood of such a nature that the normal inimical action against bacteria may be altered; and whether it is possible to derive any reliable data that will throw light on the subject of immunity. As a result of his experiments he comes to the conclusion that staphylococci introduced directly into the blood are destroyed in from ten to twenty-five minutes; more rapidly in the blood of young rabbits than in older animals of the same species. He then, by injecting the poison obtained from the pus of an old empyema or a chronic abscess in small quantities into healthy rabbits, proved that the bacteria-destroying activity of the blood is increased, the organisms used being staphylococcus aureus, albus, and citreus. He holds, however, that the introduction of such poison does not appear to exert any influence upon the similar activity of the fixed tissues. Poison from acute pus obtained in a similar manner appears to exert not the slightest influence on the destructive action of the blood; while, owing to its effect upon the tissue-elements it diminishes their power of destroying such organisms as the staphylococci above mentioned. Similar poison from pyogenic staphylococcus cultures does not increase this destructive power of the blood against the above-mentioned organisms, and any immunity that is produced depends not on the rapidity and certainty with which the blood destroys the organisms introduced into its stream, but rather upon a greater resistance which the tissue-elements exert against the bacteria poison, when they have become accustomed to the action of the poison by remaining in contact with the metabolic products of the same bacteria. He also gives experiments to show that water injected into the veins can diminish this destructive activity of the blood to a certain extent, but never completely; for, although the animals so injected and control animals died about the same time, those in which water had been injected usually showed small purulent deposits in the kidneys and myocardium, and more or less fatty degeneration of the epithelium of the kidneys, so that he considers that, in addition to this slight diminution in the destructive activity of the blood, there is some alteration of the protoplasm of the cells, probably due to the absence of salts and the cutting off of the full oxygen supply by the presence of water, by which their resistance is considerably diminished in certain areas, and owing to which they are more readily attacked by the injected staphylococci.—*The British Medical Journal.*

Points to be observed by Elderly Males.—Dr. R. Harrison offers the following advice to elderly men: 1. To avoid being placed under circumstances when the bladder cannot be emptied at will. Nothing is so bad for a large prostate, though it may be working satisfactorily, as an enforced retention. It is often the first cause of a permanent atony. 2. To avoid checking perspiration by exposure to cold, and thus throwing additional work on the kidneys. In climates like our own, elderly persons should, both in summer and winter, wear flannel next the skin. 3. To be sparing of those wines and spirits (if used at all) exercising a marked diuretic effect either by their quantity or quality; select those which promote digestion without palpably affecting the urinary organs. A glass of hot gin and water, or a potent dose of sweet spirit of nitre, will not do anything to remove the residual urine behind an enlarged prostate. 4. To be tolerably constant in the quantity of fluids daily consumed. As we grow older our urinary organs become less capable of adapting themselves to extreme variations in excretion. Therefore it is desirable to keep to that average daily consumption of fluids which experience shows to be sufficient and necessary. How often has some festive occasion, where the average quantity of fluid daily consumed has been largely exceeded, led to the over-distention of a bladder long hovering between competency and incompetency. The retention thus occasioned by suspending the power of the bladder, has frequently been the first direct step toward establishing a permanent, if not a fatal, condition of atony or paralysis of this organ. 5. It is important that from time to time the reaction of the urine should be noted. When it becomes alkaline or offensive, the use of the catheter may be necessary. When a catheter is required it is most important that its selection should not be left entirely to the instrument-maker. There are other points to be considered beyond the fact that it is to serve as an artificial outlet for the urine from the bladder. An unsuitable catheter in a prostatic case may do much permanent harm. 6. Some regularity as to the time of performing micturition should be inculcated. We recognize the importance of this in securing a regular and healthy action of the bowels, and though the conditions are not precisely analogous, yet a corresponding advantage will be derived from carrying out the same principle in regard to micturition.—*Medical Press and Circular.*

Treatment of Stricture by Linear Electrolysis.—Dr. Fort, of Paris, has operated on seven hundred strictures of the urethra without a single fatal result, by means of electrolysis (*The Provincial Medical Journal*). By means of the electroleur, an instrument invented by Dr. Fort, the operation when properly done is innocuous, without pain or blood, and no bougie is needed afterward. Dr. Fort has been the first to apply linear electrolysis in cases of œsophageal obstruction. He related the remarkable case of a young girl having so narrow a constriction that she was unable to swallow anything beyond a few drops of liquid. At the time she was at the point of death. A month afterward the disease was cured. After fifteen applications of the electroleur she was able to eat all kinds of food, and her weight increased twenty-five pounds during that time. The conclusions of the author are as follows: 1. Linear electrolysis may be used for all kinds of strictures. 2. Owing to the simplicity and harmlessness of this operation, and owing to the greater infrequency of relapses by this than by other methods, he thinks that linear electrolysis should be preferred to urethrotomy, and should constitute the operation *par excellence* in the treatment of stricture of the urethra. Combined with dilatation, linear electrolysis gives excellent results in the treatment of strictures of the œsophagus. It certainly benefits organic strictures, and it cures almost immediately fibrous or cicatricial strictures, provided that a small bougie be used to guide the electroleur.

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & Co., Nos. 56 and 58 Lafayette Place.

New York, January 3, 1891.

PURPURA RHEUMATICA HÆMORRHAGICA.

AMONG the very instructive records of the *Transactions of the Association of American Physicians*, 1890, is a discussion of a case of the above disease which was exhibited to the society by Dr. Prentiss.

The patient, a previously healthy boy of thirteen years, was first affected in March, 1889, with swelling of all the joints, very severe pain, located chiefly in the knees and ankles (and also in the stomach, attended by vomiting), and a purpuric eruption over the whole body. The attack seemed to be due to prolonged and continuous exposure to hunger, cold, and rain. On simple nutritious diet he recovered in two weeks.

In September of the same year, after exposure to scarlatina, he had a similar attack, except that the swelling and eruption were confined to the right half of the body. He was treated with acids, iron, and quinine, with morphia for pain, and the acute trouble passed away.

In November, 1889, a notable attack occurred, with hemorrhages, slight fever, delirium, dyspnœa, and conjunctivitis. The hemorrhages were from the bowels and the bladder, and also into the skin.

Up to May, 1890, when he was presented to the society, he had relapses every four or six weeks, milder than the earlier attacks. In the interval between the attacks he was fairly comfortable and free from pain, but not perfectly well. The purpuric spots had never been absent since the first attack. The urine was frequently examined and found normal, except that it contained blood at times, and that on a single occasion there was diminution in quantity, with abundance of albumin—indicating acute nephritis. The blood was examined by a competent microscopist, but no important change was detected in it.

A feature of especial interest in the case was connected with the hemorrhage into the skin—the blood being poured out apparently between the epidermis and the corium—producing gangrene of the skin. The most remarkable of the patches were upon the abdomen, where, at each side of the navel, an ecchymosis of the size of the palm of the hand appeared and became complete in half an hour, the parts being from the beginning black and painless with true gangrene. In a few days a line of demarcation formed, and the dead tissues sloughed, leaving a granulating surface which healed with a scar. The boy had a tight phimosis, but ecchymosis with sloughing on the penis saved the trouble of circumcision.

Arsenic seemed to have done the most good to the patient, with salol for the rheumatic symptoms.

In the discussion of the case, the fact was brought out that gangrene is a rare occurrence in this disease. The nature of the changes which give rise to the ecchymosis received considerable attention. According to the observations of the members of the society, purpura, whether of the simple or of the more severe and hemorrhagic forms, is essentially the same. It may be associated with rheumatic or with nervous disturbances. The cause of the effusion of blood appears to lie, not in any change in the blood, but in abnormal conditions of the walls of the blood-vessels. If so, the treatment should be directed, especially in chronic cases, to the restoration of the walls of the vessels to their normal condition, and tissue-builders should be given, such as arsenic or phosphorus. To a boy of the patient's age the latter might be administered in the dose of $\frac{1}{100}$ grain t.i.d. in some simple oil, for several months. (A German author has asserted that he has found a peculiar bacillus in the walls of the blood-vessels in this disease.) Further examination of the patient showed that there was no disease of the heart and no enlargement of the liver, but that in all probability a subacute peritonitis—the result, perhaps, of an effusion of blood into the peritoneal membrane—was present. For this, rest in bed and cold applications were recommended.

SEA SICKNESS.

IT is a curious fact that the true nature of sea-sickness, an affection from which thousands, or perhaps even millions, of individuals, medical as well as lay, suffer every year, should be as obscure to-day as it was when man first ventured upon the sea and experienced the misery that his temerity brought upon him. Of course autopsies cannot be made, for a fatal termination of sea-sickness, apart from abortion or other possible complications, occurs only once in a green moon (as the seafarer's expression has it), yet it would seem that a careful study of a long series of cases, such as it is in the power of a ship surgeon to make, would go far in the direction of a solution of the problem and might lead to something tangible in the way of the therapy of the condition. The trouble is that the misery is so evanescent and the feeling of well-being that follows it is so marked that even those who have themselves been sufferers soon lose all realization of what they have passed through, and the well on shipboard, who would feel real pity for a friend with a sick headache, have only smiles for the sufferings of their sea-sick fellows.

Theories enough have been advanced to explain the production of the nausea, vertigo, and vomiting which are the most prominent symptoms of the affection, but none of them has answered the test of experience. It is evident enough that the stomach itself is not the starting-point of the train of evil symptoms, and of late it has been the fashion to lay the blame upon the central nervous system. Some have suggested that the irregular motion of the ship occasions a slight concussion of the brain, others that it gives rise to changes in the blood-pressure or to a commotion of the cerebro-spinal fluid, from which results an intermittent compression of the brain, and that the morbid train of symptoms observed is a consequence of those repeated slight concussions or compressions. But

these results ought to follow in whatever position the sufferer may be, yet it is a fact of common observation that one suffers much less, or not at all, if he will keep the recumbent position. Another fact that would argue against either of these theories is that, as a rule, those who follow the sea soon become accustomed to the motion of the vessel and are never sick even in the most severe storms. This would not be the case if there were concussion or compression of the brain, for it is difficult to conceive of this organ becoming so used to injury as to bear its repetition without giving any sign of suffering.

In an article recently published in the *Deutsche Medizinal-Zeitung* of September 1, 1890, Dr. Roewer, a ship-surgeon of several years' experience, advances the theory of a disturbance of the muscular sense in explanation of sea-sickness. He does not deny that the motion of the ship may cause a variation in the blood-pressure in the large vessels, but thinks it highly improbable that this momentary variation should lead to cerebral congestion. It appears to him much more likely that the morbid train of symptoms, called collectively sea-sickness, is the result of a confusion of the muscular sense. The latter, in adults, is so highly developed a sense that the individual by means of it is able to judge correctly of his position, of the nature of the ground on which he stands, and even, in many cases, of the relation of surrounding objects to himself. That the "land-lubber" suffers from confusion of this sense when at sea is a self-evident fact to one who has ever tried it. During the pitching of the vessel in a heavy sea all feeling of security is lost, the support under one's feet is removed and one feels as if he were about to remain suspended in the air, while the deck on which he is standing recedes from under him. At the same time the eye is confused by the ever-changing and irregular movements of surrounding objects, and the poor sea-sick landsman feels that he is indeed "all at sea" in respect to his surroundings.

A number of facts are adduced by Dr. Roewer in support of this theory of the essential nature of sea-sickness which do not bear out that of cerebral congestion or concussion. In the first place, we find that a person gradually becomes accustomed to the motion of the ship, educates his muscular sense so that it is no longer confused by the new order of things. Again, one is much less apt to suffer from sea-sickness while retaining the recumbent posture. In this position the body is supported, the muscles are lax, and are not taxed to maintain an equilibrium. But when, during a storm, the vessel pitches heavily some muscular effort is necessarily exerted to maintain the position assumed, and then we find that symptoms, more or less pronounced, of sea-sickness become manifested. Still another fact supporting this view is that children are less liable to suffer from the malady than are adults, and the younger the child the better is his chance of escape. The explanation of this is that the muscular sense is less developed in them than in older persons, and is consequently less liable to confusion by the motion of the ship.

Dr. Roewer's theory, which resembles in some respects that previously advanced of irregular respiratory function, is ingenious and well reasoned out by the author, but unfortunately he suggests nothing practical in the way of prevention or cure of sea-sickness. He very rightly looks upon all so-called specifics, such as antipyrine, cocaine, and the like, as worse than useless, and contents himself with the laying down of certain rules looking to a simple and moderate diet and attention to the bowels. If this theory were correct it should be possible to devise a certain plan by which, by means of suitable preliminary graduated exercises the muscular sense might become educated to a shifting base of support so that when the individual went to sea he might be, to all intents and purposes, an experienced and hardened sea-rover.

DOES SWEET OIL REMOVE GALL-STONES?

Most striking results are at times obtained from the administration of sweet oil in cases of hepatic colic. A pint or so of sweet oil (or, in some cases, of other bland oils) is administered to a patient who has been for some time suffering from this form of colic, and some hours later an evacuation of the bowels takes place with the expulsion of numerous green masses believed to be gall-stones. At any rate, the patient feels greatly relieved, and may remain free from colic for years. In the Medical Society of North Carolina an interesting discussion arose on a paper presented by Dr. Burbank (*North Carolina Medical Journal*, June and August, 1890), touching the value of sweet oil in this affection. Dr. Burbank stated positively that the green masses referred to are not gall-stones at all; that they are composed of soap (formed from the oil and the alkalies of the bile), of oil which is in excess, and of bile pigments and very small quantities of cholesterin—the latter constituent forming less than one per cent. of the green masses, whereas it forms seventy or eighty per cent. of gall stones; that examination, in patients with thin-walled abdomens, proved beyond a doubt that the gall stones felt before the administration of the oil were still present after the oil had produced its benign effects. He subjoined a brief account of three cases in which large doses of sweet oil were given. None of them presented any history of hepatic colic, yet the use of the oil was in each case followed by the expulsion of masses dark green and whitish in color. In each of these cases the administration of the oil had been preceded by a dose of calomel. In a fourth case no calomel was given, and no masses were seen in the evacuations. This seems to show that the masses are formed when the oil is met in the intestines by a large quantity of fresh bile.

In the discussion which followed many members participated. The general tenor of their remarks was as follows: There is no doubt that the administration of sweet oil does give relief in cases of hepatic colic. Acute attacks of pain should be relieved by opiates, and large doses of oil should be given as soon as quiet is obtained. In many, if not in all, cases the pain fails to recur after the oil has acted on the bowels. The masses (like bits of cucumber pickle covered with mucus) which are passed in nearly all cases are not gall-stones, but soap formed by the action of the bile and pancreatic juice upon the oil; yet, white fragments of gall-stone are sometimes passed along with these green masses, and sometimes whole gall-stones are found in the stools. Sweet oil will not remove gall-stones from the gall-bladder or bile-ducts—it is not given until cessation of pain has shown that the stone has passed

into the bowel. The presence of gall-stones in the bladder does not cause colic, nor does the passage of a small stone through the duct cause it, necessarily. It is probable that the oil acts upon the duct and the adjacent bowel in such a way as to remove the conditions which are the immediate cause of the repeated attacks of hepatic colic.

The President related the case of a man who, several years ago, suffered from repeated attacks of colic. A stone of one-half inch diameter could then be clearly felt in the gall-bladder. The attacks of pain were accompanied by distention of the bladder with bile. In each of three attacks half a pint of sweet-oil was given with benefit after the bowels had been cleared by a saline purge. Green masses were passed and the retention of gall ceased, but the stone could still be felt in the bladder.

CUTTING DOWN PHYSICIANS' FEES.

It is reported that in several counties of New York State the Boards of Supervisors have cut down the fee for the examination of lunatics from $10 to $5. Physicians do so much medical service for nothing that public officials are always quite ready to cut down the medical fees for official work to the lowest figure. The ten-dollar fee is not an exorbitant one, and will not impoverish any county of the State.

We learn that in Columbia County the physicians have combined, and have notified the Board of Supervisors that they will no longer submit to the cut rates, and will not do any work of the kind in the future for the county unless they are promised full pay. In several of the counties the matter is to be brought before the County Medical Societies, and resolutions will be offered for adoption taking the same ground that the Columbia physicians have taken. A movement is also on foot to have each County Medical Society elect delegates to the meeting of the State Medical Society, to agitate the whole matter there, and to get, if possible, the State Society to make a bold stand on the question, and to appoint a delegation to go to the Legislature and have, if possible, a law enacted fixing the rates for examining indigent lunatics at $10 each, and fixing satisfactory rates for making autopsies.

We trust that this movement on the part of the physicians will be carried out. Let the matter be agitated until strict justice is done.

COMPENSATION FOR THE DERMATOLOGIST.

Lupus cases are so rare in New York that the prime article commands a premium. Inoculators have manipulated a corner in the lupus market. Hospitals without lymph soon find themselves without the pet case of lupus they were keeping for the experiment. The office of the specialist is no longer enlivened by the variegated and patchwork features of the unfortunate victim of this wolfish disease, and a man must be foxy indeed to induce a patient to continue, at the present time, with scarifications, scrapings, burning, and other modes of torture cure. But—and here is where the cutaneous man gets it back—the lymph produces skin eruption. For every case of lupus lost he will be called in some twenty times to consult about the erythema or the dermatitis which the lymph has occasioned. We are told that a *scarlatiniform erythema*, lasting for several days, and followed by desquamation, is not uncommon, and that a papular or maculo-papular eruption, resembling measles in a measure, or an urticaria-like rash often comes on shortly after the lymph treatment is begun. The dermatologist will not yet go into another specialty, but will occupy his spare moments writing a treatise on medicinal eruptions up to date.

SENSORY SHOCKS OF THE PRÆ-DORMITIUM.

This interesting class of phenomena was first described by Dr. Weir Mitchell, and afterward commented upon by one other practitioner. Except by these two, no original observations have been published upon the subject. The disorder in question consists in the experience by the patient of a sudden and violent sensation in his head. Five varieties of this phenomena are described by Dr. Weir Mitchell, who gives, in the *Transactions of the Association of American Physicians*, 1890, a review of this and other kindred sleep-disturbances. It may be, *first*, in the sphere of general sensation, like a blow or jar, or a rending as if a bolt were driven through the head; *second*, an auditory shock, as of a loud noise, a pistol-shot, a crash of broken glass, a twanging wire; *third*, a visual sensation, as of flashes of light, vivid or like the glow of "heat-lightning;" *fourth*, an olfactory impression, as of a sudden odor; *fifth*, a class, which he adds with hesitation, of emotional discharges, in which a sudden feeling of fear is experienced before or after the sensory shock.

These phenomena are observed just as the patient is losing his consciousness in sleep. They do not occur during awakening, and are rarely experienced in daytime. All patients whom he has known to have felt them in the daytime have been hysterical. Occasionally they happen in sleep and awaken the patient.

In many cases a sensation much resembling the "aura" of epilepsy precedes the sensory shock. One patient described this as the surging upward of something—as of a wave not of air, but of something more positive. When it reached the neck a shock as of a thump on the skull or of a pistol-shot fired in the brain occurred. At any time before the wave reached the neck he could avert the shock by rising or turning to his left side (it started only when he lay on the right side). He could not check it by any mental effort. He began to make observations on this sensation only after he had become used to the alarming shocks which first engaged his attention. The premonitory sign is sometimes a tingling, rising in some cases from the epigastrium; when once felt it usually appears before each succeeding attack as long as the disorder lasts. Sometimes it is a humming or buzzing within the head. When it occurs in hysterical women it is impossible for the patient to prevent the succeeding shock, either because the preliminary sensation is too short or because it is irresistible.

The differentiation of these sensory shocks, with their preliminary waves, from the auras of epilepsy and the *petit mal* is extremely important. Dr. Mitchell dwells at length on this differentiation, but his statements are a little obscure. The main points of distinction appear to

be: *First*, the time at which the attacks occur—the sensory shocks (except in hysterical patients) occurring at the approach of sleep, while epilepsy does not haunt this period of incipient slumber; *second*, the general influence of the disorder—sensory shocks are not attended with the mental and physical disease—changes of epilepsy; *third*, the nature of the explosion—this is said to be more crude in the sensory shock, where it is a coarse sensation of taste or smell or sight or touch, than in epilepsy, where it is more definite, a particular image being seen, a well-known impression being felt, a familiar odor being smelt, or a musical harmony being heard; *fourth*, the absence of unconsciousness and of muscular spasm—in sensory shock consciousness is not lost, stupor does not follow, and no spasm occurs except in rare cases, where an uncontrollable jerk or flap of the whole body ends the attack; *fifth*, the ease with which a cure may be effected—the difficulty of subduing and preventing the recurrence of even the mildest forms of epilepsy when the paroxysms have often occurred is well known; sensory shocks, however, are much less obstinate; being associated in women with neurasthenia and hysteria, and being caused in men by overwork or the excessive use of tobacco, great benefit results from removal of the depressing influences which have brought the nervous system into an irritable condition. With respect to drugs, bromides and strychnine are most efficacious, and the sensory paroxysms yield readily to their influence.

The premonitory wave appears to be the same as the aura of epilepsy, the difference being that it leads to another sort of explosion. It is perhaps also of a more crude character than the epileptic aura.

Two cases are mentioned in which the sensory shock of light or sound (preceded by a wave-sensation) did not complete the paroxysm, but was attended by a sense of pain darting down the cervical spine and out along both arms to the finger-tips.

However closely the attacks of sensory shock may approach those of epilepsy, Dr. Mitchell believes that he has good reason for viewing them as two essentially different disorders.

A USELESS LAW.

We recorded the fact recently that our esteemed legislators at Washington had passed a law authorizing the Secretary of Agriculture to cause to be made "a careful inspection of salted pork and bacon intended for exportation, with a view of determining whether the same is wholesome, sound, and fit for human food, whenever the laws, regulations, or orders of the government of any foreign country to which such pork or bacon is to be exported shall require inspection thereof relating to the importation thereof into such country." The American hog may have septicæmia, rabies, hog cholera, in which case his carcass is totally unfit to eat; or tuberculosis, in which case there should be a careful inspection and selection of the meat; or trichinosis and some half-dozen other parasitic diseases, which make the meat dangerous. But there is not one of these disorders which an inspector can discover in salted pork without a hopelessly long microscopical search.

Dr. Olof Schwartzkoff, writing in the *Journal of Comparative Medicine*, says: "From the process of curing with salt, the meat becomes so hard and rough that it is difficult, almost impossible, to prepare it for microscopical examination." The same law contains nine long sections prohibiting the importation of adulterated food and drink.

There seems little doubt that the present food inspection law is an absolutely valueless one so far as it concerns salt pork. Nor can it reasonably be expected to allay suspicions abroad.

Still, it furnishes the entering wedge to a more general and wiser system of meat inspection, such as we believe some day will be established.

HUMAN MILK AND ITS PATHOLOGICAL VARIATIONS.

The much-discussed question of the composition of human milk and of its pathological variations, has received a valuable contribution in a recent article by Dr. T. M. Rotch (*Archives of Pædiatrics*, November). Dr. Rotch made a number of analyses of human milk taken from healthy mothers with thriving infants. He compares this with a table which represents the average of several recent analyses by different chemists. The result is as follows:

	Normal Average.	Range observed with Thriving Infants.
Fat	4	3 to 4
Albuminoids	1 to 2	1 to 3
Sugar	7	6 to 7
Ash	0.2	0.1 to 0.2
Total solids	12 to 13	10 to 14
Water	88 to 87	90 to 86
	100 to 100	100 to 100

This table shows that sugar is the least variable of the organic constituents, and that the range of variation for the fat and albuminoids is not great. In other words, healthy human milk has quite a fixed chemical composition. It was observed that when the periods between nursing were short, the milk was more condensed, a fact which throws light on the dyspeptic phenomena occurring in babies who are fed too often.

The effects of diet and exercise on nursing women were marked, but showed themselves mostly in the fat, next in the albuminoids, and least in the sugar.

Dr. Rotch gives in the following table typical analyses of normal milk from a woman leading a healthy life as to exercise and food, of poor milk (starvation), of over-rich milk (rich feeding, lack of exercise), and bad milk (pregnancy, disease, uncontrolled emotions, etc.):

	Normal.	Poor.	Over-rich.	Bad.
Fat	4.0	1.50	5.10	0.80
Albuminoids	1 to 2.0	2.40	3.50	4.50
Sugar	7.0	4.00	7.50	5.00
Ash	0.2	0.09	0.25	0.09
Total solids	12 to 13	7.99	16.35	10.39
Water	88 to 87	92.01	83.65	89.61

As a general rule, the amount of fat may be increased by increasing the amount of meat in the diet, and the amount of albumin decreased by moderate exercise.

It seems from the tables as if the main trouble in poor human milk was too little fat and too much casein.

When women take too much food and too little exer-

cise there is an excess of albuminoids. This is shown in the accompanying table. The milk was that of a healthy wet-nurse; during period I. she was poorly fed, during period II. she had rich food and little exercise for a month, and during period III. the food and exercise were regulated.

	Period I.	Period II.	Period III.
Fats	0.72	5.44	5.50
Albuminoids	2.53	4.61	2.90
Sugar	6.75	6.25	6.60
Ash	0.22	0.20	0.14
Total solids	10.22	16.50	15.14
Water	89.78	83.50	84.86

This percentage of albuminoids in the milk contained in the stomach of the child may be reduced by giving a small quantity of sterilized water during the nursing, and if it be accepted that in well-fed women taking little exercise the albuminoids are likely to be in excess, and that this excess is in itself sufficient to produce vomiting, colic, and diarrhœa, then the dilution of the milk in the stomach by water given during a pause in each nursing is a line of treatment which ought to be tried.

News of the Week.

A Protective against Diphtheria.—Dr. C. Fraenkel has published (*Berliner klinische Wochenschrift* and *Lancet*) an account of his observations, conducted by himself and Dr. Brieger, upon immunity from diphtheria. Their aim was to discover a means whereby the toxalbumin produced in the growth of the bacilli of diphtheria could be so modified as to serve as a protective agent. Without detailing the various ways in which they attempted and failed to get such a product, it must suffice to say that they found by heating the filtered culture-fluid to 60° or 70° C. it could be used as a protective agent, which, injected subcutaneously in the guinea-pig, rendered that animal free from the effects of subsequent inoculation with the diphtheria virus. As a further result of their experiments they arrived at the conclusion that the material which afforded this protection was not of the same nature as the virus itself; and that therefore the result was not due to any process of attenuation by heat. For if the culture-liquid were only heated to 55° it still retained its specific toxic property; while if heated to 100° it lost its protective qualities. The inference was that the culture-fluids contain at least two kinds of toxalbumins, the specific poison of diphtheria and its antidote, and that the former was destroyed by a slightly lower temperature than the latter. We use the word "antidote" in a general sense, for it is important to bear in mind that the material does *not* prevent the action of the diphtheria virus after this has been inoculated. If anything, it seems to hasten the fatal termination. As a protective it has, however, so far succeeded in their hands in these experimental cases. Hence, so far as can be at present judged, the discovery of Drs. Behring and Kitasato is likely to be more fruitful of beneficial results.

Demanding Fair Rates.—The physicians of Dutchess County have sent a petition to the Board of Supervisors saying that they believed $10 a just and fair charge for an examination of a dead body before a coroner, $25 a just charge for ordinary autopsical examinations, and $10 a just charge for an ordinary examination in lunacy. Then the petitioners add as follows: "We do hereby agree not to perform the duties of coroner's physician or examiner in lunacy for a less sum than above stated, and we would respectfully ask your board to fix the above charges as legitimate rates. We are forced to this action by the knowledge and belief that our services are misunderstood and our labors underrated; that our professional qualifications are gauged by the standard of the day laborer, and that often in the past no account has been taken of our skill and ability nor of the dangers we have to encounter. And we further agree that unless more definite action is taken by your honorable body, whereby we may be assured of the full payment of our bills at the rate above stated, we will decline in the future to act in a professional capacity as coroner's physicians and examiners in lunacy for the county of Dutchess."

A Medical Senator.—Among the new senators of the kingdom of Italy appears the name of Giulio Bizzozero, ordinary professor of general pathology in the University of Turin, and well known in European schools for his researches on the composition of the blood in health and disease.

Dr. A. F. Holt, Surgeon-General of Massachusetts, died December 28th in Martin, Fla. Dr. Holt resided at Cambridge, Mass., and left for the South about two weeks ago for the benefit of his health, he being a sufferer from Bright's disease. He was born in Lyndeborough, N. H., December 16, 1838. He obtained his medical education at the Harvard Medical School and University of Vermont, and served with distinction during the war as hospital surgeon. In January, 1884, he was appointed Surgeon-General of Massachusetts.

Opportunities for Medical Study by Women.—There are now forty-seven medical colleges, in the United States and Canada, which admit both sexes; and nine colleges which are for women alone.

Dr. Mackenzie Gets some Lymph.—The German doctors, who, says the *Pall Mall Gazette*, have by no means lived down their jealousy of Sir Morell Mackenzie yet, are very sore at his having obtained some of Dr. Koch's lymph, and having thus been able to make one of the earliest demonstrations in the "cure." A week or two ago it was known in Berlin that Sir Morell was trying to get some of the lymph. "But he will not get any — no, he will not get any," said Dr. von Bergmann, gleefully, to a journalist who was talking to him on the subject. But Sir Morell did get some. How did he do the trick? That is the question which is perplexing the Berlin "medicos." Only Sir Morell Mackenzie and another know, though some others have made a shrewd guess.

The Co-education of the Sexes.—The Medical College which first admitted a woman medical student, as described most interestingly by Dr. Smith, is now extinct. The lady who graduated was not Dr. Emily Blackwell, but probably her sister; Dr. Emily Blackwell graduated from the Cleveland Medical College (also now extinct) in 1854.

The Vagus Treatment of Cholera.—The *Madras Mail* states that, at the instance of the Secretary of State for India, the Government of India has forwarded to all local governments and administrations copies of pamphlets by Dr. A. Harkin, of Belfast, Ireland, entitled "The Vagus Treatment of Cholera," with a request that the mode of treatment therein recommended may be tested in selected hospitals, and the result communicated to the Government of India. The treatment is in itself remarkably simple—viz., the application of blistering fluid behind the right ear, with the idea of stimulating the vagus nerve, so as to inhibit the action of the sympathetic on the abdomen. For, from a consideration of the phenomena of cholera, Dr. Harkin arrives at the conclusion that in the inordinate action of the sympathetic we have an explanation of the violent purging, cramps, and other characteristic symptoms; and he urges, from the known physiological effects of the relations between the vagus and the sympathetic, the trial of the remedial measure above stated.

The Medical Practitioners' Protective Alliance.—The following are the portions of the code of this association which explain its objects:

"Article II. The object of this association shall be to maintain organized co-operation among the practising physicians who are legally qualified to practise in their respective States, and in good standing, for the purpose of protecting medical practitioners from the abuse of dispensaries that treat many who are well able to pay; from the unjust competition caused by short term, quick graduating, and inferior medical colleges; to endeavor to promote the passage of just and equitable laws regulating the practice of medicine in all States, so that the license to practise issued by any one State shall be valid in any other State; to devise means to enhance our financial condition (and thereby our usefulness) in every honorable way, and to derive the incalculable benefits that only can be obtained by combination and unity of action. The fees shall be $3 for first year, and $2 for each succeeding year."

"Article VII. That an effort be made to secure a law in each State that will secure the medical practitioner from the many losses he now sustains from those well able to pay, but unwilling, and to make the physician's claims, in all cases, a preferred one, which must be paid before the *pro-rata* of an estate, as is now the law in some of the most enlightened countries of Europe."

The names of those wishing to join is desired by Dr. J. H. DeWolf, 1600 Franklin Street, Baltimore, Md.

The Micro-organism of Cancer.—Dr. William Russell has made a contribution to the above subject which deserves much attention. He has found certain bodies which he calls "fuchsin bodies" in the epithelial masses of cancer. *The British Medical Journal* says: "As far as can be gathered from his paper, Dr. Russell is undoubtedly of the opinion that the organism he describes is not a psorosperm, but is one of the yeasts or sprouting fungi. He thinks, indeed, that he has been able to demonstrate in his sections the actual budding that is so characteristic of the vegetative multiplication of the yeast cells. Whatever may be the outcome of this work, Dr. Russell has placed on record an admirable method of staining, and so demonstrating certain protoplasmic bodies, which, although probably previously observed, have certainly been misunderstood; and it is quite possible that as a result of this improved method of staining some of these bodies, the structure of which we have hitherto not been able to make out accurately, and which, for want of a better name, have been spoken of as 'psorosperms,' will now have to be reclassified and spoken of as 'yeast.' Dr. Russell does not claim to have proved any causal relationship between his fuchsin bodies and cancer, but after eliminating all fallacies, as far as he was able, he places his results before his fellow-pathologists in order that his observations may be confirmed or corrected." The yeast fungi are not believed, however, to be pathogenic organisms, hence it is highly improbable that Dr. Russell's "fuchsin bodies" are causal factors of cancer.

A New Process of Cremation and Mummifying has been proposed in France, based upon the well-known and successful experiments in plating with copper or other metals, by means of electrolysis, the most delicate tissues of grasses, leaves, and skins. Certain Frenchmen have, as an experiment, actually plated a dead child. The result is a perfectly faithful statue of the subject, truer to life than any sculptor could hope to achieve. The metallic shell is strong enough to withstand shocks. To receive the electroplating of copper, aluminum, or gold, as the case may be, the skin is prepared by a bath of nitrate of silver, and the silver reduced upon it by the vapor of phosphorus. There are also various other ways of providing the necessary "electrode" on which to deposit the coating.

The New York Cancer Hospital has received the sum of $40,000 from the estate of the late Mrs. George W. Cullum.

Vital Statistics of American Jews.—The last census contains a study of the vital statistics of the Jews resident in this country. The inquiry resulted in the return of 10,618 completed family schedules, embracing 60,630 living persons; in these families there had been 2,148 marriages, 6,038 births, and 2,062 deaths during five years. The deaths reported for the five years give an average annual death-rate of 7.11 per 1,000 of population, being about half of the average rate for the general population. The expectation of life at the age of ten years, based upon the death rate for the year of 1889, is 61.11 and 56.02 years for males and females, respectively, as against 49.99 and 48.05 as calculated by life insurance companies for the general population of this country. Contrasting the birth- and death-rates for those of native-born and foreign-born parents, indicates that the birth-rate is decreasing, and the death-rate increasing with more prolonged residence in this country; but the general results indicate that the Jews here retain many of the peculiarities which have been noted among them in Europe.

Winckel on Obstetrics in the West.—*The Journal of the American Medical Association* makes the following interesting observations about Professor Winckel, of Germany, and obstetric art in the Great West. It says: "Professor Winckel seems to think that the obstetricians of the West do not know very much about pelvimetry.

At least this is the construction we put upon the following sentences that may be found on page 460 of Edgar's translation of Winckel's Obstetrics: 'When I hear statements made, such as those I often heard in America, in 1886, that narrowing of the pelvis hardly ever occurs there, I can only say that the clinical observation of normal and abnormal labor is still at a very low ebb in the whole of North America, with the exception of New York, Boston, and Philadelphia. Not alone are the majority of obstetrical wards very imperfect, but even in the larger services of this kind, for example, in the San Francisco County Hospital, they are entirely inaccessible to the student, and there is no question of the thorough working up of the material for observation there contained.' Certainly this is a statement *ex cathedrâ*. Professor Winckel's visit to the United States was of brief duration, and his reception by the profession was not remarkably cordial. In fact, until within a very recent period, he has been a comparatively unknown man in America. While in Chicago, unannounced he paid a visit to the Cook County Hospital, where he was hospitably received by one of the internes. This recent graduate never having heard of Professor Winckel, politely conducted him through the wards, and *en route* gave him some 'pointers' on the preservation of the perineum and on the conduct of labor. The attention to these instructions was so close and so marked that the young man, pleased with his attentive pupil, familiarly slapped Professor Winckel on the back, and cordially invited him to call again, to see some obstetrical operations!" While the *Journal* denies the charges made by Winckel, it advises a greater attention to pelvimetry by American obstetricians.

Hospitals not Charitable Institutions.—The distinguished President of the Medical Board of the Presbyterian Hospital of this city is quoted as saying, on the occasion of the recent anniversary of that institution, that "he did not like to hear hospitals described as charitable institutions." This has a singularly felicitous application to the hospital in question, which yet needs $350,000 to continue its good work in the rich, brown-stone district.

Death after Inoculation for Lupus.—Dr. Janisch reports in the *Wiener klinische Wochenschrift*, No. 50, a case of death in a girl of seventeen, after a single injection of two milligrammes of Koch's lymph. Local reaction had been very prompt. The injection was made at nine o'clock in the morning, and by three in the afternoon the region of the affected portion of the face was swollen, turgescent, and surrounded by a bright-red inflammatory zone of the width of the finger. The upper lip was livid. These local manifestations became more pronounced, and by the next morning the swelling had become more diffuse. The bright red had given place to a livid color, and in many places yellow crusts were noticeable. Dyspnœa came on, weakness of the heart, and death on the same evening, thirty-six hours after the injection.

Congenital Circumcision.—Dr. T. B. Nichols, of Plattsburg, N. Y., writes that he recently attended a French Canadian woman in confinement, and delivered her of a healthy boy, who on examination was found to be devoid of prepuce, the penis presenting every appearance of having been circumcised

THE LYMPH TREATMENT IN NEW YORK.

CASES AT MOUNT SINAI HOSPITAL.

Service of Dr. A. Jacobi and Dr. H. N. Heineman.

Case I. *Pulmonary.*—Injections continued up to 0.008 c.c. Temperature not above 101° F. General symptoms as at last report.

Case II. *Lupus Face.*—Injections up to 0.012 c.c. Constitutional reaction slight. Locally, steady improvement.

Case III. *Pulmonary.*—Injections up to 0.008 c.c. Appears stronger. Reaction moderate. Temperature not above 102° F.

Case IV. *Pulmonary.*—Injections up to 0.008 c.c. Somewhat paler. Decided reaction. Temperature up to 103.8° F.

Case V. *Lupus Penis.*—Injections up to 0.007 c.c. Marked constitutional reaction. Steady local improvement.

Case VI. *Pulmonary.*—Injections up to 0.009 c.c. Very slight reaction. Up and about, and cheerful.

Case VII. *Tubercular Bone Disease.*—Injections up to 0.008 c.c. No local changes yet noted.

Case VIII. *Tubercular Bone Disease.*—Injections up to 0.007 c.c. Disappearance of pain and disability of right arm after a few injections. Moderate constitutional reaction.

Case IX. *Tubercular Gland and Skin Disease.*—Injections up to 0.004 c.c. Marked reaction. Temperature high. Glands getting smaller. Sinuses healing.

Case X. *Multiple Sarcomata.*—Injections up to 0.0065 c.c. Moderate constitutional reaction. No change in glands.

Case XI. *Lupus Vagina.*—Injections up to 0.008 c.c. Constitutional reaction very slight. Locally, feeling of discomfort.

Case XII. *Tubercular Caries.*—Injections up to 0.003 c.c. Slight reaction. No local change.

Case XIII. *Tubercular Bone Disease.*—Injections up to 0.008 c.c. Feels well. No change.

Case XIV. *Tubercular Bone Disease.*—Injections up to 0.006 c.c. Very moderate reaction. Wounds appear same.

Case XV. *Tubercular Disease of Tarsus.*—Injections up to 0.007 c.c. No bad symptoms.

Case XVI. *Lupus Hand.*—Injections up to 0.004 c.c. Marked constitutional disturbance and hyperpyrexia. Locally, scaling very marked.

Case XVII. *Pulmonary.*—Injections up to 0.008 c.c. Marked reaction began only with 0.004 c.c. Otherwise as before.

Case XVIII. *Pulmonary.*—Injections up to 0.006 c.c. Reaction as before. Slightly weaker if anything.

Case XIX. *Pulmonary.*—Injections up to 0.008 c.c. Reaction mild. Cough much less. Feels well.

Case XX. *Pulmonary.*—Injections up to 0.009 c.c. Reaction mild. Still feels weak at times, but recuperates in intervals. Inoculations on third day only in one or two instances.

Case XXI. *Pulmonary*—Injections up to 0.008 c.c. Marked reaction. General appearance same.

Case XXII. *Tubercular Empyema.*—Operated upon for thoracentesis and resection. Treatment interrupted. To be resumed shortly.

Case XXIII. *Pulmonary Laryngitis.*—Injections up to 0.007 c.c. Reaction decided. Laryngitis improved. Feels stronger.

Case XXIV. *Pulmonary.*—Injections up to 0.007. Reaction more marked since. Appears well in interim.

Case XXV. *Pott's Disease.*—Injections up to 0.006 c.c. Reactions more marked lately. Slightly weaker. An extra day of delay required at times.

Case XXVI. *Epithelioma.*—G——, aged fifty-five, female, housework; admitted December 22, 1890. Epithelioma of lower eyelid, involving the entire thickness,

leaving an open ulcer. Left ala nasi destroyed in a circular manner about three-fourths of an inch in diameter. Existing for years. Old cicatrices about nose. Injected, December 23d, 0.001 c.c. Marked reaction and rise of temperature, with local swelling and slight incrustation, resembling closely the effect upon lupus.

Case XXVII. *Trachoma.*—G. R——, aged thirteen, Russia; admitted December 22d, 1890. Has had trachoma, most marked in right eyelid, for past year. Now upper and lower lid are much thickened and granular. Suspicions of tubercular nature of trachoma by Dr. E. Gruening. Injected, December 23, 1890, with 0.001 c.c. Reaction slight.

Case XXVIII. *Pulmonary.*—T. S——, girl, aged eleven, Russia; admitted December 8, 1890. History of one year's cough. Incipient phthisis at both apices. Broncho-vesicular breathing, etc. Injections up to 0.005. c.c. Moderate reaction. Feels well in interval.

The surgical cases in above list are contributed from the services of Drs. J. Wyeth and A. G. Gerster. Case XXVIII. from service of Dr. B. Scharlau. Cases I. and III. from service of Dr. A. Meyer.

December 31st.—No marked change has taken place in the pulmonary cases during the past week, save in one of the cases of tubercular laryngitis (Case XXIII.), who has gained considerably in weight and is improved markedly in every particular.

Of the cases of lupus, Case II. has received up to 0.020 milligr. of lymph—the face is steadily improving. In this case the patient is up and about; the constitutional reaction being almost *nil*. Temperature, below 101° F., always, and no general symptoms.

Cases V., XI., and XVI. are steadily improving—that in the first and last being most marked.

The cases of bone disease progress slowly. Case XII. is getting stouter and stronger daily, and her health markedly improved, although an emaciated, feeble child when admitted, in whose case the treatment was begun with hesitancy.

Case IX. of the gland disease is steadily improving. An additional case in child under two years of age (case of Dr. Scharlau) has reacted markedly to 0.0015 milligr. her temperature rising and the inguinal gland, for whose suppuration treatment was inaugurated, has, after swelling at first, been rapidly diminishing.

The case of epithelioma has reacted constitutionally and locally as markedly as most cases of lupus.

A child, aged eleven, suffering from chronic trachoma, has continued under treatment, with a view of determining the relation of this lesion to tuberculosis; the right lung is slightly involved at the apex. Only a few inoculations have been made, and no conclusion can yet be made.

I am privileged to report that, through the courtesies of a colleague, Professor Jacobi and I have been permitted to witness the effects of treatment in a case of leprosy in private practice. The case is one in a young man under thirty, and has existed for nine years. The treatment has been undertaken so recently that no decisive report can be made. The patient is isolated and cared for under circumstances of strict privacy, which make a more detailed report impossible at the present time.

CASES AT ST. LUKE'S HOSPITAL.

Service of Dr. Francis P. Kinnicutt.

During the past week four new cases have been admitted to St. Luke's Hospital for treatment by inoculation with Koch's fluid, making the total number of patients up to the present date twenty-six. They consist of two cases of laryngeal tuberculosis and two cases of lupus of the face. In one of the patients suffering from the latter disease there is evidence of unusually deep tissue infiltration and a very active ulcerative process exists. One of the cases of laryngeal tuberculosis is a particularly favorable one for study, as physical examination reveals only the slightest evidence of pulmonary disease. A brief report of a few of the cases that have been under treatment for the longest period is appended:

Case I., of previous reports. *Tubercular Infiltration of Apex of Right Lung.*—Two inoculations have been made since the last report, of 0.001 gm. each, on the 26th and 29th. The last inoculation was not followed by reaction and the strength of the dosage will now be increased. Physical examination merely reveals a decided diminution in the amount of moist crepitation over the affected area since the previous note. Weight of patient preceding first inoculation, 144 pounds. Weight at the end of the first week of treatment, 142 pounds; weight at the expiration of thirteen days, 145½ pounds.

Case II., of previous reports. *Prostatic Surface Tubercular Disease.*—An inoculation was made on the 29th of 0.001 gm. The reaction was much less severe, and of shorter duration. There is continued diminution in the pain in passing urine through the urethra.

Case III., of previous reports. *Lupus of the Ear and Contiguous Portions of the Face and Neck.*—The local reaction not having subsided, no fresh inoculations were made until the 30th, two weeks subsequent to the last. A marked change is apparent. The present appearance of the diseased tissue is described by Dr. George H. Fox as follows: The auricle is much whiter and more normal in shape and color. The patch below the ear is perfectly flat and smoother than before inoculations were made. There is now no tendency to exudation or scaling. The general hue of the affected part is that of hyperæmia rather than that characteristic of lupus infiltration.

Case IV., of previous reports. *Incipient Hip joint Disease.*—Reinoculations were made on December 23d and 27th of 0.0005 gm. and 0.001 gm. respectively. The reactions were less marked than previously. The examinations of the patient on the 29th by Dr. Shaffer is reported by him as follows: Patient examined on hard surface. Flexion practically normal. The thigh passes to its extreme limit upon abdomen. Abduction normal. Rotation in during flexion limited at about twenty degrees short of normal, and if the movement is persisted in the patient flinches slightly. Adduction approximately normal. Rotation in with thigh flexed at one hundred and thirty-five degrees fully equals the opposite joint in motion.

Patient in prone position. Extension of thigh approximately normal. Patient prone, pelvis fixed. Rotation in does not quite reach the normal. Rotation out free and normal. Patient is free from pain and walks without support, with the slight limp previously noted.

Case V. *Tubercular Infiltration of Apex of Left Lung.*—Several copious hemorrhages during October and November of present year, the last on November 12th. Numerous tubercle bacilli in sputa. Morning and evening temperature previous to inoculations normal. Seven inoculations, gradually increased as reactions ceased to be developed, have been given up to the present date, the last on December 29th, of 0.004 gm. The amount of sputa in the twenty-four hours prior to the first inoculation amounted to two ounces. The amount gradually increased subsequent to treatment to five ounces, to again gradually diminish to one and a half ounce at the present time. Physical signs show little change. Weight prior to first inoculation, 144 pounds; weight at the end of the first week of treatment, 142 pounds; at the expiration of the thirteenth day, 145 pounds. The patient's general condition is excellent.

Case VI. *Tubercular Infiltration of Apex of Left Lung; Lupus of Right Hand; Numerous Tubercle Bacilli in Sputa.*—Eight inoculations, gradually increased in dosage, have been given. Last inoculation, December 28th, 0.004 gm. Daily amount of sputum preceding first inoculation, twelve drachms; at present date, two ounces. Weight, prior to first inoculation, 118½ pounds; at the end of the first week of treatment, 118½ pounds;

after thirteen days of treatment, 120 pounds. There has been no marked improvement in the cutaneous tuberculosis. The improvement in general condition and the increase in weight in the cases of phthisis are encouraging. The results of the examination of their sputa will be given in a subsequent report.

Case VII. *Lupus of the Uvula and Contiguous Portions of the Throat, and Infiltration of the Left Anterior Nares.*—First inoculation, December 24th, 0.001 gm. A sharp reaction followed, though delayed for fourteen hours. Severe hemorrhage from the left nasal passage followed, with swelling of the right, sufficient to wholly occlude its lumen. Two small glands immediately beneath the left ear became markedly swollen and painful, with a reddening of the superficial skin. An old cicatrix in front of the left ear, resulting from the excision of a gland five months previously, became vividly red, with swelling of the contiguous tissue. The growth attached to the uvula was covered with a mucoid secretion. Two inoculations have since been given to this patient, with corresponding local reactions, the systemic disturbance being, however, less marked. The reaction at the site of the cicatrix is of much interest, as indicating the probable presence of remains of tubercular disease.

CASES AT THE ST. JOSEPH'S ORPHAN ASYLUM.

Service of Dr. Edmund Charles Wendt.

Up to the time of writing seven selected cases have received inoculations of Koch's lymph at this institution. The lymph was obtained through the courtesy of Dr. L. Weber, consulting physician to the asylum, to whom I wish here to express my thanks.

Small Initial Doses.—Most of the cases at this institution being those of younger children, the initial dose has generally been only one fourth of a milligramme, *i.e.*, 0.00025 gm. It is to be remembered that in using Koch's lymph we are employing a very powerful agent, and that we are still in the experimental stage of clinical investigation. It has not yet been demonstrated that, the larger the dose, the more powerful the effect for good; while, on the other hand, the possible harm would certainly appear to be in direct proportion to the quantity of lymph injected. In a given case the smallest dose that is capable of producing a decided reaction ought to be regarded as sufficient to inaugurate those tissue-changes upon which the curative effect of the lymph is supposed to depend. These remarks are by no means offered in a spirit of criticism of those who employ the usual 0.001 gm. initial dose. They are merely intended to call attention to the possibility of benefiting our patients without incurring the risk of unpleasant disturbances.

Time and Intensity of Reaction.—In all undoubted cases of tuberculosis the injection of lymph was followed by a febrile reaction. But the time of its first appearance, as well as its intensity and duration, were subject to wide variations. The highest temperature thus far recorded at this institution has been 104.3° F. Subnormal temperatures have not been observed. Alarming symptoms have not developed, although the malaise and restlessness of some of the children have been very marked. Signs of local irritation of moderate intensity have appeared at the site of inoculation in several cases. The injections have been made into the subcutaneous tissue of the abdomen, back, or thigh, preferably the first mentioned region.

There being such wide variations as to the manner of reaction, further tests with the lymph in presumably healthy, or at least non tubercular, cases should be instituted. It is in this way only that we can definitely establish Koch's claim, that the lymph produces its specific effects only in case there are tubercular deposits within the body. Brief notes of the cases are appended.

Case I. *Strong Hereditary Predisposition to Phthisis.*—Girl, aged eleven. Parents both died of consumption when comparatively young. Her only sister now in the last stage of phthisis, at same institution. This girl is pale and delicate in appearance. Chest flat. Cervical glands very slightly enlarged. No physical signs relative to lungs, no cough. Small eater.

December 24, 1890, 2 P.M.—First inoculation, 0.00025 gm. No reaction. Temperature normal. 25th. Everything normal.

December 26th, 11 A.M.—Second inoculation, 0.0005 gm.; 2 P.M.: Temperature, 99.2° F.; at midnight, 98.2° F.

December 27th, 11 A.M.—Third inoculation, 0.001 gm.; 2 P.M: Temperature, 101° F.; 9 P.M., 99.2° F.

December 28th.—Fourth inoculation at noon, 0.001 gm. Temperature did not rise above 99.3° F.

December 29th.—Fifth inoculation at noon, 0.002 gm.; at 3 P.M., temperature 100.8° F.

December 30th.—Sixth inoculation at noon, 0.003 gm. Temperature normal at time of injection.

The peculiar interest attaching to this case is due to the fact that our ordinary methods of examination would not permit us to say more than that the girl would be likely to have phthisis later on. But if the occurrence of distinct reaction after the injection of Koch's lymph is really characteristic of the presence of tubercle, then this girl is already in the first stage of tuberculosis. And it is precisely in this class of cases that the curative effect of the lymph will probably find its widest sphere of applicability. Until now this girl has developed no cough. In fact, apart from temporary malaise and a decided febrile reaction, the lymph has produced no appreciable effect whatsoever.

Case II. *Ozæna Scrophulosa, Lymphadenitis of Neck.*—Girl, aged nine; strumous; ulcerating eczema of nose, recurrent phlyctenular keratitis.

December 24th.—0.00025 gm.; no reaction.

December 25th.—0.0005 gm., followed by highest temperature of 99.3° F.

December 27th.—0.001 gm., followed by distinct reaction. Temperature, 100.3° F.

December 28th.—0.0015 gm., followed by rise of temperature to 102.2° F.

December 29th.—Temperature in morning, 99° F. Inoculation of 0.002 gm. at noon; at 3 P.M. the temperature had risen to 100.2° F.; at 5 P.M., 101° F.

December 30th.—Temperature in morning, 99° F.; injection of 0.003 gm.

This girl developed considerable cough, although an examination of the lungs before treatment was negative. The keratitis rapidly disappeared. Around the nose large red blotches appeared, which later resembled the erysipelatoid reaction seen in lupus.

Case III. *Hip-joint Disease* (Service of Dr. F. Kammerer).—Girl, aged three; left hip joint flexed, adducted, and fixed. Limping since one and a half year old. Previous treatment by extension. Abscess opened some time ago.

December 26th.—First inoculation of 0.00025 gm. at noon; at 2 P.M.: Temperature, 99.3° F.; at 4 P.M.: Temperature, 100° F.

December 27th.—0.0005 gm. injected; reaction to 100.3° F.

December 28th.—0.001 gm. injected; temperature remained stationary at 100° F. all day.

December 29th.—0.0015 gm. injected. Temperature rose to 102° F. in three hours. No signs of local reaction at hip-joint up to this day.

December 30th.—Temperature, 10 A.M., 99.3° F.; injection of 0.002 gr.

Case IV. *Hip-joint Disease* (Service of Dr. Kammerer).—Girl, aged five, taken ill about one year ago. Gradual development of symptoms. Extension treatment at first successful. Relapse this fall. Has failed of late.

December 26th.—First inoculation of 0.0005 gm. Highest reaction temperature 100.3° F.

December 27th.—Injection of 0.001 gm. Reaction to 102.2° F.

December 28th.—Injection of 0.001 gm. Reaction to 102° F.

December 29th.—Injection of 0.0015 gm. Temperature, three hours after injection, 101.8° F.

December 30th.—Temperature, 10 A.M., 99° F. Injection of 0.002 gm.

It should be stated that in this case the temperature did not remit to the normal point, but fluctuated between 99° F. and 100° F., even during the time when it should have been normal. No local reaction at hip-joint; movements more painful than at beginning of treatment by inoculation.

CASE V. *Tubercular Glands in Neck and Submaxillary Region; Scrofulous Affection of Eyelids and Nose.*—Girl, aged eleven Two years ago severe chorea, which yielded to large doses of arsenic (up to fifteen drops of sol. Fowleri t.i.d.). Has lost flesh lately. A few suspicious râles at both apices.

December 27th.—First inoculation of 0.0005 gm. at noon. Temperature, 2 P.M., 100° F.; 4 P.M., 101° F.; 6 P.M., 102° F.; 9 P.M., 103.2° F.

December 28th.—Second inoculation at 1.30 P.M. of 0.00075 gm. Temperature was 101° F. in the early morning (*i.e.*, incomplete recovery from reaction).

At the time of injection it was said to be normal, although I did not verify it. Temperature at 3 P.M., 102° F.; 5 P.M., 103° F.; 7 P.M., 103.3° F.; 9 P.M., 104.2° F.; 12 P.M., 104.3° F.

Scarlatinoid rash all over body developed after second injection. Glands in neck not larger than before treatment; not painful.

December 29th.—Temperature at 9 A.M., 101.2° F.; 12 noon, 101° F. No inoculation this day.

December 30th.—Temperature, 10 A.M., 99° F. Injection of 0.001 gm. at noon.

CASE VI. *Incipient Phthisis.*—Girl, aged sixteen. Mother died of consumption. Has been liable to "colds" for years. Supra-clavicular spaces sunken in; flat chest. No emaciation; slight cough. General condition fairly good.

December 27th.—First inoculation of 0.0005 gm. Slight reaction to 99.3° F.

December 28th.—Temperature normal at 8 A.M. Second inoculation at noon of 0.001 gm. By 9 P.M. temperature had risen to 101.3° F. Scarlatinoid rash over body.

December 29th, A.M.—Temperature normal. Injection at 11 A.M. of 0.002 gm. Temperature at 3 P.M., 102° F.; at 9 P.M., 102.2° F. Has developed much cough and expectoration.

December 30th.—Temperature, 10 A.M., 100.4° F. No injection.

CASE VII. *Scrofula.*—Girl, aged five. About one year ago convulsions and signs of meningitis. As she recovered it was held to be simple meningitis, although the symptoms were those of the tubercular variety. Also had pneumonia in 1889. At present pale and delicate in appearance; glands at neck enlarged. A few râles (bronchitic) on left side of chest.

December 28th.—First inoculation of 0.00025 gm.; no reaction.

December 30th.—Second injection of 0.0005 gm.

CASES AT THE NEW YORK INFANT ASYLUM, MOUNT VERNON BRANCH.

Service of DR. EDMUND CHARLES WENDT.

Two cases have received the Koch treatment thus far at this institution.

CASE I. *Tubercular Lymphadenitis of Neck.*—Infant, aged nineteen months. In the later part of November, 1890, Dr. Townsend removed some broken-down glands from right side of neck. Thick, bulging cicatrix. Some glands still enlarged. Healthy looking, plump baby.

First inoculation December 24th, 2.30 P.M., 0.00025 gm. No reaction except slight rise of temperature following day to 100.4° F.

Second inoculation December 26th, 0.0005 gm. Temperature rose to 100.6° F.

Third inoculation, December 29th, 0.001 gm. Temperature rose to 103° F. after eight hours.

CASE II. *Incomplete Resolution after Pneumonia.*—Colored woman, aged twenty three, condition previous to admission "delicate." Family history unknown. About the middle of October, 1890, she had an attack of pneumonia, from which she has not recovered. Temperature during height of attack not above 103° F. Signs of consolidation persisted, even after fever subsided. Cough with expectoration, occasional night-sweats, and deterioration of general health were observed. During month of December, her temperature became almost normal, no hectic. Two weeks before first inoculation highest temperature was 99.5° F.

First inoculation December 24th, 2.15 P.M., 0.00025 gm., temperature normal. Slight reaction to 99.6° F. but subjective symptoms more marked.

December 25th.—Slept poorly night before. Anorexia, nausea, malaise, pain in head and joints. Coughs much more than before injection. Later she vomited twice. Temperature this afternoon (*i.e.*, twenty-four hours after first inoculation of ¼ milligr.), 101.2° F.

December 26th, A.M.—Feels much better after a good night. Second inoculation of 0.0005 gm. followed by milder reaction. Temperature, 100.6° F.; considerable cough.

By December 29th temperature back to normal. Third inoculation of 0.001 gm. The area of chest dulness is larger, but auscultation shows no appreciable change. This case seems interesting on account of the race of the woman. So far as I know the lymph has not hitherto been tried on colored people, and the decided reaction obtained after a minute dose may give a hint as to caution in using Koch's liquid on blacks. It was noticeable also in this case that the defervescence of the febrile reaction was more gradual than would appear to be the rule.

CASES AT ST. FRANCIS HOSPITAL, NEW YORK.

Service of DR. GEORGE F. SHRADY.

(GEORGE A. WEYMAN, M.D., House Surgeon.)

Ten cases were treated during the past week by inoculation, and several re-inoculations were made.

CASE I. *Tubercular Knee-joint.*—Franz A——, aged twenty. First inoculation, December 24th, 1.001 gm.; reaction, 101° F., five hours after. Second inoculation, December 26th, 0.001 gm.; reaction, 101° F., eight hours after. Third inoculation, December 28th, 0.002 gm.; reaction, 101° F., three hours after. No marked local changes. Patient complains of less pain, and joint appears more supple.

CASE II. *Tubercular Wrist-joint.*—Mary S——, aged twenty five. First inoculation, December 24th. No marked reaction; 99⅘° F., nine hours after. Second inoculation, December 28th, 0.002 gm.; 100⅕° F., five hours after. Some heat in joint, less pain.

CASE III. *Tubercular Knee-joint.*—Annie B——, aged twenty four. First inoculation, December 24th, 0.001 gm.; eight hours after, 100⅗° F. Second inoculation, December 26th, 100⅘° F., five hours after. Third inoculation, 0.002 gm.; 99⅗° F., six hours after. December 31st, slightly jaundiced, otherwise well; inoculation postponed.

CASE IV. *Carious Sinus of Femur.*—Operated upon three times for progressive caries. First inoculation, December 24th, 0.001 gm.; 100⅕° F., in six hours. Second and third inoculations with 0.002 gm. each; no reactions, no local changes.

CASE V. *Scrofulous Ulcer of Groin.*—Inoculated for diagnostic purposes with 0.002 gm. After third inoculation, reaction in five hours, 100⅗° F.

Case VI. *Phthisis.*—Mrs. H—— (patient sent by Dr. L. Fischer). Consolidation of both apices, small cavity right apex. First inoculation, December 26th, 0.001 gm. Reaction 101⅗° F., six hours after. Second inoculation, December 28th; five hours after, 101⅗° F. Expectoration increased, with more moist râles. Patient expresses herself feeling much better, appetite improved.

December 31st. third inoculation, 0.002 milligr.

Case VII. *Phthisis.*—Annie R——, aged thirteen. Consolidation with commencing cavity. First inoculation, December 28th, one-half milligr. Reaction in four hours, 103° F., with nausea and vomiting.

Case VIII. *Incipient Phthisis.*—Frank K——, aged twenty. Inoculated December 29th, reaction slight, 99⅗° F., two hours after. Reinoculated with 0.002, December 31st.

Case IX. *Phthisis.*—(Patient of Dr. J. H. Ripley.) First inoculation, December 29th. Reaction in three hours, 102.5° F., and continued during day following.

Case X. *Epithelioma of Lower Lip.*—Male, aged fifty-five. December 24th; no reaction. Second inoculation, December 27th, 0.002 gm.; slight reaction. Eight hours after, 100° F., headache and nausea. Third inoculation, December 29th, no reaction.

CASES AT THE NEW YORK CANCER HOSPITAL.

As a diagnostic study for reactions after inoculation with the lymph Dr. George F. Shrady treated seven cases of cancer in the New York Cancer Hospital, on Saturday, December 27th, in the presence of Drs. Clement Cleveland and H. C. Coe. The cases were two of extensive epithelioma of the face, two of ulcerating cancerous breasts, and three of epithelioma of cervix uteri. An eighth case was one of lupus of the face. Without expectation of any but negative results, it was curious to note that in two of the cases, one of epithelioma of face and one of ulcerated breast, there was reaction (101° F.) within eight hours, and one of epithelioma of face, a slight reaction (99⅘° F.) within that period. One milligramme was used in each instance. In the case of cancer of the breast there was slight parenchymatous hemorrhage from the ulceration during the reaction. Of course no significance is placed upon these phenomena, but they were sufficiently curious to warrant a repetition of the experiments in those which reacted. Accordingly, on Tuesday afternoon, two milligrammes were administered to each of these. Time has not yet elapsed to note results. A case of lupus also inoculated (0.001 milligr.) did not respond to reaction and the quantity was accordingly doubled.

CASES AT BELLEVUE HOSPITAL FROM DECEMBER 19 TO 29, 1890.

Service of Dr. H. P. Loomis.

Total number of cases, 15. Lupus, 4; phthisis, 10; tubercular joint, 1.

Case I. *Pulmonary Tuberculosis.*—Mary D——, aged twenty-two; duration of disease one year. Under treatment ten days. Injections as follows: 0.001, 0.002, 0.003, 0.003, 0.005, 0.001, 0.001, 0.001, 0.001 gm. Each injection followed by slight reaction.

December 19th. Physical examination: At right apex, behind, expiration somewhat tubular. In front, on left, feeble inspiration accompanied by fine, crackling râles. Sputum, ʒ ij. per day; bacilli, 25 to 50 to field.

December 26th. Physical examination: At right apex, behind, tubular expiration well marked—few râles heard on coughing. Left side, in front, loud tubular expiration and abundance of large and small mucous râles on inspiration. Sputum, ʒ ijss.; bacilli, 12 to 15 to field.

December 29th. Physical signs: Well-marked bronchial breathing at both apices. In front the râles are less distinct. Sputum, ʒ j.; bacilli, 3 to 8 to field.

Remarks.—Injections in this case were followed by slight reactions, the temperature never going above 101.5° F. There has been a slight increase in weight and considerable improvement in patient's general condition.

Case II. *Pulmonary Tuberculosis.*—A. F——, male, aged twenty-four. Duration of disease, one year. Has had eight injections, as follows: 0.001, 0.002, 0.003, 0.001, 0.001, 0.005, 0.005, 0.002 gm. On admission, physical examination: At left apex there is prolonged high-pitched expiration and mucous râles both in front and behind. No râles on right side. Sputum, ʒ iij.; bacilli, 3 to field. At present, physical signs: abundance of râles on coughing on right side. Left side râles increased in number.

Sputum, ʒ ij.; bacilli, 5 to 8 to field.

Remarks.—Slight reaction after each injection. There has been no increase in weight, but patient's general condition is better.

Case III. *Pulmonary Tuberculosis.*—C. D——, male, aged forty-seven. Duration of disease, three months. Under treatment ten days. Eight injections, as follows: 0.001, 0.002, 0.003, 0.001, 0.001, 0.001, 0.001, 0.002 gm. On admission, physical examination showed: Consolidation at both apices; large mucous râles at right apex. Sputum, ʒ ij.; bacilli, 1 to field; weight, 113 pounds. Physical signs at the present time are unchanged. Sputum, ʒ jss.; bacilli, 2 to 3 to field; weight, 114½ pounds.

Remarks.—Slight increase in weight, but no decided improvement in the condition of the patient.

Case IV. *Pulmonary Tuberculosis.*—J. D——, male, aged thirty. Has had slight cough for one year. Had profuse hæmoptysis one month ago. Has had eight injections, as follows: 0.001, 0.002, 0.003, 0.004, 0.001, 0.001, 0.001, 0.001, gm.

December 19th.—Physical signs: Slight dulness in infra-clavicular space on right side; inspiration feeble, and expiration accompanied by fine crackling râles. Sputum, ʒ jss.; bacilli, 40 to 50 in field; weight, 131 pounds.

December 22d.—Physical signs: Right side in front, expiration tubular. Both inspiration and expiration accompanied by fine crackling râles. Râles also heard behind. Sputum, ʒ j.; bacilli, 50 to 100 to field.

December 29th.—Physical signs: Nearly all the râles have disappeared, only a few fine pleuritic crepitations remain. Sputum, ʒ j.; bacilli, 30 to 40 to field; weight, 134 pounds.

Remarks.—There is very little change in patient's cough, but his night-sweats are less frequent and profuse.

Case V. *Pulmonary Tuberculosis.*—J. Q——, male, aged twenty-nine. Duration of disease, three years. Under treatment nine days. Had six injections, as follows: 0.001, 0.002, 0.004, 0.003, 0.005, 0.005 gm.

December 20th.—Physical examination: On the left side feeble breathing and pleuritic crepitation in infra-clavicular space. Sputum, ʒ j.; bacilli, 15 to 20 to field.

December 22d.—Physical signs: Bronchial respiration with many râles at left apex. Numerous pleuritic crepitations in front. Sputum, ʒ ss.; weight, 118 pounds.

December 29th.—Physical signs: Bronchial respiration less distinct; râles less numerous; sputum, ʒ ss.; bacilli, 25 to field; weight, 123 pounds.

Remarks.—At present time patient coughs and expectorates less than usual. Appetite greatly improved, and general condition better.

Case VI. *Pulmonary Tuberculosis.*—M. B——, female, aged twenty seven. Duration of disease, five weeks. Under treatment ten days. Had eight injections as follows: 0.001, 0.002, 0.004, 0.001, 0.001, 0.0005, 0.0005, 0.001 gm. On admission, physical signs: Signs of consolidation at both apices; signs of cavity on the inner border of right scapula. Sputum, ʒ ss.; bacilli, 10 to 15 to field. Weight, 83 pounds. At present, physical signs: Less bronchial breathing and fewer râles. Sputum, ʒ ijss.; bacilli 10 to 15 to field. Weight, 85 pounds.

Case VII. *Lupus Erythematodes.*—H. H——, male, aged twenty one. Duration of disease, thirteen years.

Under treatment ten days. Had five injections as follows: 0.005, 0.005, 0.009, 0.005, 0.005 gm. On admission: Large, nodular, elevated red spot on each cheek. Around each spot is a large area of cicatricial tissue. No discharge. Weight, 146 pounds. At present the inflamed area is smaller, less red, more scaly, and is encroached upon by spots of healthy tissue. Face shows very marked improvement. Weight, 149½ pounds.

Remarks.—Reaction after each injection well marked.

Case VIII. *Lupus Vulgaris.*—M. F——, female, aged sixty-five. Duration of disease, sixteen years. Disease began as a small lump inside the nose, on right side, and slowly spread until it involved the external surface of the nose, cheeks, and upper lip. On admission: Entire face swollen, very red and glazed, with here and there large scabs. Near the angle of the mouth is a small tumor about three-fourths of an inch in diameter, hard and nodular. Has had six injections as follows: 0.005, 0.005, 0.01, 0.005, 0.005, 0.005. At present there is a decided improvement in appearance of face. The discharge from the ulcer on nose, and also tumor at the angle of mouth, has ceased. The redness and swelling are rapidly disappearing, and the scabs are falling off.

Remarks.—The patient's general condition has improved markedly. In this case the reactions were very marked, the temperature, after the third injection, reaching 104.2° F.

Case IX. *Lupus Vulgaris.*—D. S——, male, aged seventeen. Duration of disease, eight years. Under treatment six days. On admission entire face and anterior portion of neck involved, also index finger and dorsal surface of right hand. On the face and neck are several ulcers which are discharging freely. On the hand, at metacarpo-phalangeal joint, is an ulcer which also discharges. Weight, 87 pounds. Received five injections as follows: 0.001, 0.0005, 0.001, 0.0012, 0.002 gm. At present there is no discharge from the ulcers on the face or neck. Large scabs have formed over the ulcerated portions, and over remaining portion of diseased area large scales are falling off; there is less tension, less redness, and the ulcers are granulating. Weight, 89 pounds.

Remarks.—After the first injection of 0.001 gm. the temperature rose to 105⅕° F., accompanied by intense headache, with pain in back and limbs. The region involved by the disease appeared very much inflamed, and the ulcers discharged more freely.

Case X. *Lupus Vulgaris* (doubtful case). M. S——, female, aged sixty-two. Duration of disease, sixteen years. Under treatment ten days. On admission: Disease involves entire right side of nose and portion of face over superior maxillary bone. It is red, hard, nodular, and very much swollen. At its upper and lower borders it has broken down and has formed an irregular ulcer. Received four injections as follows: 0.005, 0.005, 0.005, 0.006 gm. Present appearance: The redness has almost entirely disappeared, there is very little swelling, and no discharge. The ulcer is healing.

Remarks.—This was a case injected for the purpose of diagnosis, the question being raised whether the changes were due to lupus or epithelioma. The reactions were well marked; after the first injection there was a marked rise in temperature, the diseased area became greatly inflamed and a copious discharge appeared on the ulcerated surface. This, together with the subsequent marked improvement of the case, we consider sufficient to warrant us in making the diagnosis of lupus.

Case XI. *Tuberculosis of Shoulder-joint.*—T. M——, male, aged twenty-eight. Duration of disease, two years. Under treatment, ten days. Received four injections, as follows: 0.002, 0.004, 0.009, 0.005 gm. On admission, considerable pain on motion, limited motion, and free discharge of pus. At present, no pain on motion, very little discharge, joint freely movable.

Remarks.—Slight reaction after each injection.

Case XII. *Pulmonary Tuberculosis.*—G. G——, male, aged nineteen. Duration of disease, three months. Under treatment, eight days. Received seven injections, as follows: 0.001, 0.002, 0.0005, 0.0005, 0.0005, 0.0005, 0.0005 gm. On admission, physical signs: Consolidation and infiltration at left apex; signs of cavity at right apex; sputum, ℥ iv.; 5 to 10 bacilli to field. Present physical signs: Signs of infiltration less marked, râles disappearing, cavity the same. Sputum, ℥ iijss.; 2 to 3 bacilli to field.

Remarks.—General condition of patient improved. The advance of the tubercular process in the lungs, which on admission was rapidly progressing, appears to be checked.

Case XIII. *Pulmonary Tuberculosis.*—J. O——, male, aged thirty-two; duration of disease, three years; under treatment, five days; had five injections, as follows: 0.001, 0.002, 0.001, 0.001, 0.002 gm. Physical examination: Consolidation at both apices, with pleuritis below right scapula; sputum, ℥ j.; no bacilli; weight, 115½. At present physical signs: Many moist râles developed, evidences of consolidation more marked; sputum very little; bacilli, 1 to 2 to field; weight, 117½ pounds.

Remarks.—Slight reaction followed each injection. At present no decided improvement in condition of patient.

Case XIV. *Pulmonary Tuberculosis* (?).—J. L——, male; aged forty-five; duration of disease, one year; under treatment, ten days; has had six injections, as follows: 0.001, 0.002, 0.004, 0.003, 0.005, 0.008 gm. Physical examination on admission: Signs of cavity at right apex; broncho-vesicular breathing at left apex; sputum, ℥ ij.; no bacilli; weight, 135 pounds. Present condition: Physical signs unchanged; sputum, ℥ jss.; no bacilli; weight, 136½ pounds.

Remarks.—No reaction from any of the injections. No change in general condition of the patient.

Case XV. *Acute Pulmonary Tuberculosis.*—M. D——, male, aged thirty-eight. Duration of disease, six weeks. Under treatment, six days. Received five injections, as follows: 0.00025, 0.00025, 0.00025, 0.00025, 0.00025 gm. Physical examination: On admission, consolidation at both apices, large and small mucous râles with crepitating frictions over both sides of the chest; sputum, ℥ j.; 40 to 45 bacilli to field. At present, râles more sticky and less troubling in character.

Remarks.—Patient treated upon principle of repeated small injections. Results very favorable. Patient has less dyspnœa, less cough, and shows marked improvement in his general condition.

In all but one of the cases treated, there were distinct reactions. These reactions consisted, in all cases, of rise in temperature, headache, pain in back, joints, and chest, restlessness, and loss of sleep. In some cases where the injections were large there was a slight chill. In nearly every case there has been an increase in weight, and in the phthisis cases, after the first one or two injections, a marked change in the physical signs, sputum, and number of tubercle bacilli. In lupus there is distinct improvement.

CASES AT THE POLYCLINIC HOSPITAL.

Service of Dr. H. N. Heineman.

(Assisted by Dr. F. S. Mandelbaum of Mount Sinai Hospital.)

(Reported by S. S. Davis, M.D., House Physician.)

There are five cases now at the Polyclinic Hospital, three for pulmonary tuberculosis and two for lupus. Of the three cases of pulmonary tuberculosis, one is complicated with laryngeal trouble, and all three are well advanced into the second stage. Two of them came in December 16th, and one December 27th. Of the first two, eight injections have been made, beginning with 0.001 milligr. and increasing 0.001 milligr. each time, till 0.008 milligr. has been reached. The temperature in these two cases has never been above 100° F., generally reaching its maximum in from four to six hours after the injection,

and declining again to normal within the next four hours. In one case the temperature was subnormal after the fifth and sixth injections, reaching at one time as low as 96.4° F., followed by well-marked chill. In all three there is slight enlargement of spleen, with headache and a general feeling of malaise, after each injection. Cough and expectoration was increased at first, and the general appearance and appetite is better.

Tubercles were found in the sputa in all the cases.

Of the lupus cases, both are lupus vulgaris.

Case I.—Italian boy, aged eight years, has had the trouble four years. Reaction came on in ten hours. The region involved by the disease was elevated and reddened intensely, the redness extending about two lines beyond the diseased part. In thirty-six hours the redness began to disappear, finally fading out, leaving the diseased part scaly and less elevated. He received 0.00075 milligr. for first injection, and 0.001 milligr. for second injection, which was followed by same characteristics as first, temperature never going above 99° F.

Case II.—An old lady, who has had the disease for forty years, was received December 29th, and an injection of 0.001 milligr. was made. In four hours reaction set in, with characteristic redness and pricking and burning sensations in the part affected. Spent sleepless night and complains of sense of weight. Temperature, fifteen hours later, 100.4° F.

December 31st.—Cases I. and II. are progressing, particularly Case II., with laryngeal trouble, having a generally improved appearance.

Case III., pulmonary disease in female, aged twenty-seven, of phthisical family. Disease advanced to stage of cavity. Treatment by request. General condition exceptionally good and spirits likewise. Only a few inoculations to date.

Case IV., Italian boy about eight years of age. Lupus of nose involving the lower third, also three isolated spots on back of right thigh. Reactions as usual.

Case V., lupus in elderly female, seventy years of age, existing since her twenty-third year (forty-seven years ago). Entire left cheek beneath the chin and slightly extending up on lower part of right cheek, involved in moderately deep-seated cicatricial tissue with underlying nodules. Inoculation of 0.001 milligr., followed by excessive swelling and pain locally. Constitutional reaction slight. Has received only one inoculation.

Case I. *Pulmonary.*—Injections up to 0.006 c.c. Moderate reaction. Subnormal temperature. Epistaxis. Is bright and unaffected as to strength.

Case II. *Pulmonary Laryngitis.*—Injections up to 0.006 c.c. Reaction slightly greater. Epistaxis. Spleen large. General condition same. Larynx appears slightly improved.

The Black Death in England.—As regards the effect of the Black Death upon the social and industrial system of England, Dr. Cunningham agrees to a large extent with Mr. Thorold Rogers, but with respect to its destructive influence upon the population he occupies a middle ground between the latter writer on the one hand and Mr. Denton on the other. The terror which the Black Death caused is visible in the extraordinary change which was brought about at this epoch in the artistic representations of death; the horrors of the actual visitation can be faintly indicated by statistics. The chief sources of statistical information are, for larger areas, the records of the institutions of clergy to benefices, and, for particular villages, the records of the court rolls. While the former documents seem to show that, with all allowances for the ordinary death-rate, more than half the parish priests died during the year (1348), the latter give instances where whole villages were practically annihilated. In Dr. Cunningham's opinion we shall not be far wrong in saying that nearly half of the population were swept away at this time.—*New York Sun.*

THE LATEST DEVELOPMENT OF THE LYMPH TREATMENT IN BERLIN.

[The following letter, sent to the Medical Record by Dr. Frank Fremont Smith, of St. Augustine, Fla., who has been studying Koch's methods in Berlin, contains interesting and practical facts bearing upon many points which have been subjects of discussion, and brings our information to the latest date.]

Berlin, December 15, 1890.

The American surgeon who after four hours of observation in the wards of Von Bergmann and Gerhardt set out for home, declaring that he thoroughly understood the Koch treatment, would hardly have hazarded a judgment so rash had he spent the past three weeks in Berlin. Each day has revealed new phases, and experience is teaching variations from the results obtained in the early study of the treatment.

I. Reaction.—It now seems that reaction, even in true tuberculosis, is not invariable. This was shown by Rosenbach, of Breslau, in a report, December 4th, of five cases, each with bacillus in sputum, one of them with intense lung affection and excessive bacilli, which were treated without reaction, and was stated by Krause, in private demonstration, on December 9th. A case was shown by Weber (Gerhardt's wards) December 13th, with tubercular bacillus in sputum, who has given no typical reaction with five injections, the last dose being 1 ctgr.

II. Other Tissues Susceptible.—It is recognized that tissues affected by another than the tubercle bacillus may be susceptible to Koch's fluid. There were reported, December 11th, by Bardeleben, of Berlin, one case of leprosy, and one of rodent ulcer, in both of which good reactions and improvement followed exhibition of Koch's lymph. A case of leprosy was reported by Isaac, of Vienna, December 11th, in which similar decided reactions occurred. On the same date a case of leprosy is reported by Arning, in Engel-Reimer's Hospital, Hamburg, in which 5 milligr. produced prompt and high reaction, but no local sign. It must be remembered that bacilli of tuberculosis and leprosy may have existed side by side, as in the private practice of Arning two cases of the classical form of leprosy failed entirely of general or local reaction.

III. Dangerous Symptoms.—Unsuspected tuberculous areas, brought out by the selective power of the lymph, may produce alarming or dangerous symptoms.

1. *Brain.*—Henoch has in the past week denied the advisability of making injections in cases of tubercular meningitis, deaths having occurred during reaction. In the autopsy of a case of Henoch, Virchow stated that the amount of blood in the brain exceeded any previous experience.

2. *Larynx.*—Krause warns of necessity of laryngeal examination before injection, lest sudden swelling or rapid cellular infiltration of a susceptible mucous membrane may produce complete closure. Two cases in the wards of Senator, two in those of Cornet, and one in Gerhardt's, wear tracheotomy tubes in testimony.

3. *Lungs.*—An adult patient was observed in Gerhardt's wards, December 8th, with infiltration of the left apex and bacilli in sputum. After the first injection the *right* apex, before normal to percussion, presented marked dulness down to the second rib. This passed off with decline of reactive fever. It occurred during the reaction of the two succeeding treatments, ceased with the fourth, and has not returned.

In the same wards an adult female is shown, who, after her second injection (1 ctgr.) suddenly developed distressing dyspnœa—respirations 60, 68, and 64 on the three following nights; temperature, 104° F.; absolute dulness over the lower angle of the right scapula as large as the palm, with crepitant râles. She remains under treatment, suffers no more distress, and has made a gain of two and one-fifth pounds during the past week, eight having been lost during the period of dyspnœa.

Kast, of Hamburg, December 11th, reports case of a female adult, with extensive lung tuberculosis, who was treated with gradually increasing doses, which were well endured until an injection of 15 milligr. was reached, when suddenly, during reaction, she fell into collapse. Only hypodermic stimulation prevented fatal issue.

Weber (Gerhardt's clinic) demonstrated, December 13th, a male adult, who had suffered one hæmoptysis before admission. The first treatment was on November 20th, the beginning dose 2 milligr. On November 28th, during reaction following dose of 1 ctgr., an abundant hæmoptysis occurred. Treatment was now discontinued till December 3d, since which time it has been regularly pursued without accident, and with general improvement. The patient's own statement, notwithstanding cessation of hectic and night sweats and gain of three pounds in the past twelve days, is that he "holds not much faith of the treatment."

4. *Heart.*—In Leyden's wards Dr. W. C. Bailey showed a male adult with pulmonary tuberculosis in second stage. Injections from November 12th to 26th, with doses from 1 milligr. to 1 ctgr., gave usual decided but mild fever reactions until 1 ctgr. was reached, when the temperature mounted to 104.2° F., and pulse, before running regularly between 72 and 80, leaped to 140. The patient was in great danger of heart failure for six hours. Cases of sudden heart failure and death have occurred. The best authorities here do not consider the remedy cumulative.

5. *Kidneys.*—Rosenbach, of Breslau, reports lymph injection for tuberculous ulceration of intestines, with reaction 104.5° F., in which the urine, before normal, was reduced to 50 c.c. in twenty-four hours, was dark brown, loaded with casts, entirely coagulable. This result is supposed to have been due to development of latent renal tuberculosis, or to kidney idiosyncrasy.

6. *Intestines.*—Children frequently suffer considerable diarrhœa during the early treatment. This usually corrects itself with cautious dieting, and the system becomes tolerant. In Leyden's wards (Charité) was seen, on December 11th, an adult male, with pulmonary tuberculosis who has taken six injections, during each reaction suffering intense pain in one small area of the left hypogastrium, requiring opium. He has intense reaction to the moderate dose of 5 milligr. Diagnosis of probable intestinal tuberculosis is made by Leyden.

The sudden death of a case under Stricker, of remarkable similarity, has led in these wards to the most cautious employment of the lymph, in both amount and frequency of administration.

Professor Nicoladoni, of Innsbruck, reports the case of an adult, with lupus of face, legs, and arms, not extensive; tubercular infiltration of both apices, and diarrhœa, whose temperature in eight hours after the first injection, dose 2 milligr., reached 105.8° F., and who fell into collapse and died.

Post-mortem examination: Swelling of intestinal mucous membrane and ulcerations extending to the peritoneal coat.

In concluding I might add that P. Guttmann, Director City Hospital, Moabit (Berlin), on December 11th, reports that the cases of two young female adults, with most marked symptoms of incipient pulmonary tuberculosis, both presenting bacilli in sputum, and who each received 5 ctgr. as final injection, "are to be regarded as cured under the treatment."

Since Von Bergmann reserves till January any definite opinion concerning permanent results in lupus, the form earliest treated and most watchfully observed, I shall not presume to draw conclusions.

In the present formative state of opinion it is unwise to attempt an ultimate verdict as to the extent of application of this remedy and the permanency of present hopeful results, which time alone makes possible.

NOTE.—Most of the cases reported from Berlin have been under personal observation, those from other cities may be found reported in recent issues of *Deutsche Medicinische Wochenschrift*, *Berliner Klinische Wochenschrift*, and *Deutsche Medicinal Zeitung*.

Reviews and Notices of Books.

WOOD'S MEDICAL AND SURGICAL MONOGRAPHS. Volume VII. No. 2. Contents: MORBID BLUSHING: its PATHOLOGY AND TREATMENT, by HARRY CAMPBELL, M.D.; ALCOHOLISM IN WOMEN, by DR. THOMEUF; THE DIFFERENT METHODS OF LIFTING AND CARRYING THE SICK AND INJURED, by G. H. DARWIN, M.D.; TREATMENT OF INGROWING TOE-NAIL, by JOSEPH AMIARD, M.D.; CHRONIC BRONCHITIS AND ITS TREATMENT, by WILLIAM MURRELL, M.D. August, 1890. New York: William Wood & Co.

"MORBID Blushing: its Pathology and Treatment." At first thought it does not appear that there is aught of interest or value to the physician in the subject of "Blushing." Dr. Campbell, however, finds enough to interest us through some ninety pages of this number. The question is considered from every possible stand-point; numerous cases are cited, and many illustrations add to the interest of the paper.

"Alcoholism in Women." Dr. Thomeuf's observations were based upon the inhabitants of Brittany, and the cases collected chiefly from the female wards and maternity of the Hôpital de l'Orient. Alcoholism is divided into acute, chronic, and subacute forms; and the writer devotes especial attention to the subacute form, which has hitherto been passed over with but slight mention by writers on alcoholism in women.

"The Different Methods of Lifting and Carrying the Sick and Injured." It is not an uncommon state of mind among the students of an ambulance or "first-aid" class to think that when a pad has been well and accurately placed upon a wounded artery, or some cleverly improvised splints adjusted to a broken limb, or some other injury bandaged, the work is finished. This is not so. Sometimes, and by no means infrequently, it will happen that the most difficult part remains to be done, and that is to discover how best to remove the injured person. It is to assist in reaching this end that the present paper is written. It gives carefully the necessary details, and is generously illustrated.

"Treatment of Ingrowing Toe-nail." The method described is that of Dr. Th. Anger, and consists in the removal of an oblong piece in such a way that it includes all the diseased tissues, exuberant ulcers, the border of the nail, and the corresponding matrix, at the same time leaving a flap to cover the cut surface and shorten the period of healing by granulation. In that the operation has an advantage over that of Cotting, of which the author seems not to have read.

"Chronic Bronchitis and its Treatment." This number closes with a very readable paper on that most obstinate affection, chronic bronchitis. After discussing the conditions under which it is most often found, and the symptoms, Dr. Murrell goes on to a consideration of the treatment by ipecacuanha and other sprays, tar and its allies, pure terebene and its allies, cheken and cubebs, chloride of ammonium inhalations, and fuming inhalations. The paper is enriched with numerous cases illustrating the various plans of treatment.

A DICTIONARY OF PRACTICAL MEDICINE, BY VARIOUS WRITERS. Edited by JAMES KINGSTON FOWLER, M.A., M.D. Sixty-five Illustrations. 8vo, pp. 968. Philadelphia: P. Blakiston, Son & Co. 1890.

IF one must have a medical dictionary of this sort, this volume will be found as unobjectionable as any, and more handy than most. The list of writers includes very many names already well-known among the rising generation of physicians, the articles are well condensed, and the book-making good.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, October 16, 1890.

ALFRED L. LOOMIS, M.D., PRESIDENT, IN THE CHAIR.

Hydrophobia: Its Clinical Aspect, by L. C. GRAY, M.D. (see p. 6); its Pathological Aspect, by C. L. DANA, M.D. (see p. 3).

DR. HAROLD C. ERNST, of Boston, was invited to open the discussion. He said that soon after Pasteur's first experiments were announced some rabbits were sent him from which he carried out a prolonged series of inoculation experiments, studying not only the virus as it was transferred from one animal to another, but trying to satisfy himself whether the method had any protective value or not. He began as a complete sceptic, not believing even that there was such a thing as rabies, but at the end of his studies he had become a complete convert to Pasteur's views. If there was anything at all which was certain it was that the inoculation of the virus under the healthy dura mater in rabbits was followed in an exact time by certain symptoms. He had never seen anything to be compared with it in exactitude in the way of experimentation.

The Term Hydrophobia Inappropriate.—He wished to emphasize the inaccuracy of the term hydrophobia. He had seen during the past year two cases of true rabies in man, and about sixty cases of true rabies in dogs, and from this clinical experience he could say he had not seen hydrophobia, or fear of water. Contraction of the muscles of the jaw and pharynx was brought on by the sight of glittering objects or the thought of swallowing, but not by fear of water. One of the men, who was perfectly rational between the spasms, said he had no fear of water at all, but that the contractions were brought on involuntarily whenever anything brought to mind the idea of swallowing.

Difficulty of Diagnosis.—He did not consider himself, nor others with whom he had been associated, competent to make an absolute diagnosis of true rabies in man or animals without inoculation experiments.

There may be Spurious Rabies.—He had been rather surprised at the statement by one of the readers that there was no such thing as spurious rabies, or that there could be no change produced in the tissue elements by the exercise upon them of the influence of the nerve-elements of thought and will. That assertion, he thought, was very flatly contradicted by a case which he had seen during the summer, and to which he referred again later.

Pathology.—Eight or nine years ago, he said, Fitz, of Boston, gave the results of microscopic examination of the spinal cord in two cases of rabies dying in the Massachusetts General Hospital. The changes were similar to those seen in the two cases which died in Boston last summer. In the first place, any change whatever that had been observed in the brain or cord in these cases had been limited to the posterior portion of the medulla or cord. Second, those changes had been much more numerous in the medulla than in the cord. In certain portions of the cord they had not existed at all. They consisted, with pretty general regularity, first, in infiltration of the walls of the vessels with indifferent white cells, making an appearance on cross section of the vessel as if the wall was stuffed with these stained nuclei. The next thing constant was the very great engorgement of the vessels, particularly of the veins. The engorgement sometimes went so far that the blood-cells could not be distinctly differentiated, presenting almost the appearance of a thrombus. There were occasional perivascular hemorrhages. These changes were evidently recent. Lastly, Fitz found small miliary abscesses. He said it might be doubted, however, whether true abscesses were present, for the leucocytes preserved their distinct individuality, were separated by an interval, and occasionally a giant cell would lie unaltered in the midst of these small foci of corpuscles. Fitz's conclusion from these cases was that the appearance indicated a miliary bulbitis; perhaps they should be called cases of acute miliary bulbitis, to distinguish them from cases of miliary bulbitis already described by Leyden. That corresponded exactly with what Dr. Ernst had found, so far as he had gone, in the two cases last summer. He exhibited microscopic sections. The first section showed a longitudinal section of a vein with perivascular hemorrhage, the second section, loaned by Dr. Fitz, showed a cross section of a vein, with thrombosis, perivascular hemorrhage, and marked infiltration of the vessel-wall.

Recent Cases.—The first case was that of a man who was bitten by his own dog last spring. The wound healed kindly. At the end of about twenty days he began to show symptoms which the attending physicians said appeared to be those of acute mania. One only of the consultants thought of rabies. A post mortem was made and the brain was submitted to Dr. Ernst for examination. Rabbits inoculated in the usual manner died of the usual symptoms.

Another case was remarkable because of the marked character of the intervals of lucidity between the paroxysms. It occurred last spring in a man who was bitten by a pet dog which had been lost for a week. The symptoms developed twenty-four days after the bite and terminated fatally in thirty-six hours after entering the hospital. The young man had previously been perfectly healthy. He was conscious during the paroxysms, so he said, as well as between them, but was unable to restrain the outbursts.

A third case was in a man who was bitten on the hand on July 4, 1890, by a bulldog while it was fighting a setter. He had no suspicion that the dog was mad, but next morning the animal's collar was brought back by a farmer who said he had killed the dog because it was biting his pigs. There were six pigs in the pen, five of which died within six weeks of, probably, rabies. The setter died within about five weeks. On the 15th of September this man was brought to the City Hospital, no question of rabies having entered his mind until twenty-four hours after his admission. He died on the 16th, the symptoms having lasted altogether about three days. Autopsy next morning. Rabbits inoculated in the usual way died in the usual manner.

A Case of Pseudo-Hydrophobia.—In July a well-nourished, ignorant Irish girl was bitten late Saturday afternoon by a dog which was running by. Sunday afternoon, or within twenty-four hours, she had every symptom of newspaper rabies—frothing at the mouth, biting the tongue, trying to bite her friends, fear of water, and on Monday came to the Massachusetts General Hospital. Unfortunately, while arrangements were being made to give her a hospital bed, somebody showed her some water and she ran away, not to put in an appearance again.

Patients Treated.—A boy in Fitchburg, Mass., was bitten in August by a dog which within fifteen minutes also bit three dogs. The father thought nothing about it, although the dog was killed the same day. Nineteen days afterward two of the three dogs died, after attempting to bite other animals. Then the father became frightened and came to Dr. Ernst for advice, who sent the boy to New York where he was inoculated. He had not and has not had any symptoms. But before he got home the third dog died of unquestionable rabies.

Rabies Epidemic about Boston.—During the years 1889-90 over sixty dogs had been brought to the veterinary hospital at Boston with rabies. Dr. Ernst tested about twenty by the inoculation method, and, the results in all being exactly similar, felt justified in considering the remainder as cases of true rabies without making inoculations. The epizootic seemed now to have died out. One curious fact was to be noted, namely, that none of

these animals, provided they were kept under quiet conditions from the time of the bite, showed the slightest symptom of furious rabies unless there was some external excitement. When let alone they simply showed the paralytic symptoms of dumb rabies and died. He was therefore led to believe that a true rabies was not a furious rabies unless there had been some external excitement. This, however, was likely to be present if the dog were running at large.

Pasteur.—Whether Pasteur was right or not, he thought there was at least one thing made out definitely, namely, that he had got hold of a specific virus, something which could be transferred from one animal to another by inoculations, always producing the same symptoms. Here was the fallacy in the experiments of Dr. Spitzka. He had produced, the speaker believed, something similar to the appearance of rabies in rabbits [the word rabbits used inadvertently for dogs, H. C. E.], but they had not been carried on far enough to offer any ground for comparison with Pasteur's work. Then there was never any suppuration produced by Pasteur's method, at least not visible to the naked eye, as has occurred in cases quoted by his opponents. There could be no fault found with Pasteur's statistics. They came out every month, and the cases were divided into classes A, B, and C, the first being where the animal inflicting the bite was shown to be rabid by inoculations, the second where it was said to be so by a veterinarian, the third where it was suspected. In class A the percentage of mortality in man after inoculations was only 0.98. There were no previous definite statistics with which these results could be compared.

Dr. W. R. Birdsall said he had never seen a case of true rabies, but had seen a number of cases of pseudo-rabies from fright, excited by the bite or scratch of a dog. None died. Yet he would not go so far as Dr. Dana and say that death from shock was impossible. Not that he believed it would prove immediately fatal, but that it might lead to changes producing exhaustion, coma, and death. A number of hysterical cases, he thought, died in this way. He thoughf it was ridiculous at the present time to deny the existence of rabies. Yet it might be a question whether there were not a number of specific germs producing somewhat similar symptoms instead of a single one. In attempting to carry out the inoculation treatment there was danger, he thought, of increasing the number of cases of pseudo-rabies, and also a possibility of introducing the poison now and then, although some denied this.

Two Autopsies.—Dr. H. P. Loomis said he had made an autopsy on two patients who were supposed to have died of rabies. One was made long before Pasteur's method was introduced; in the other the autopsy was made last December, and experiments according to Pasteur's method would show that it was a case of true rabies. With the exception of slight pulmonary œdema no changes were anywhere recognizable by the unaided eye. Microscopical examination showed in the lower portion of the medulla oblongata capillary congestion and giant cell infiltration; no capillary hemorrhages, no thrombi. The clinical history stated that the boy had been perfectly well until within four days of his death, when he became suddenly violent and delirious, grew steadily worse, and was sent to the pavilion for the insane at Bellevue Hospital, where he had spasms, threw himself upon the floor, had a wild look, the conjunctivæ congested, face alternately pale and flushed. Soon after admission he suddenly died, showing some symptoms of asphyxia. The physicians in the hospital made the diagnosis of acute mania.

In about twenty thousand bodies at the hospital eight were said to have had hydrophobia, and in these at autopsy no gross pathological lesion was found. In three cases recorded as acute mania the microscopic and gross appearances were identical with those in the cases of hydrophobia spoken of.

Dr. J. M. Byron said he had been making experimental investigations with regard to rabies for three years, first under competent direction, and later alone.

Subdural Inoculations not always Fatal.—It had been asserted that subdural inoculations in rabbits was always fatal, but this, he said, was not true; about five or six per cent. of the rabbits recovered.

Immunity not Uniform after Inoculations.—Again, it had been asserted that inoculations by the ascending series, the method of Pasteur, always gave immunity in animals. This was not true, for some, though not many, of the animals died. Further, inoculations made under the skin scarcely ever produced any symptoms at all, never, he thought, rabies. Rabbits paralyzed with subdural inoculations if made to bite other rabbits failed to produce in these rabies.

Dr. Byron further referred to the method of Ferran, who used the strongest virus on man, whereas Pasteur greatly attenuated his. Statistics, he said, showed that about the same number of deaths occurred with as without inoculations by Pasteur's method, and the inference was that inoculations made under the skin in man were useless. For himself, at least, he had never been able to produce laboratory rabies and from this get a virus which would cause rabies in animals when injected under the skin.

Dr. E. D. Fisher had seen two cases of rabies. He thought no intelligent man could deny its existence with the evidence before us. But there might be pseudo-rabies in a hysterical person.

Dr. E. C. Spitzka thought Dr. Ernst could not have read his paper, for in it he had not spoken of experiments which he had made on rabbits; he had experimented on dogs. His object in writing it (it was published in 1886) was to prove that the introduction of a part of the spinal cord of a dog dead forty-eight hours under the dura-mater of a healthy dog would produce meningitis, paralytic symptoms, and death, yet the dog be not affected with rabies. They were then making experiments in his laboratory with cerebral emulsion obtained from a dog nine months ago which had symptoms described as those of rabies. With this emulsion they had inoculaed dogs in series, and they presented symptoms of furious rabies. They had no difficulty in propagating the disease by subdural inoculations, but they had great difficulty in propagating it by subcutaneous inoculations, only a few cases having succeeded and these animals all died of symptoms of so-called dumb rabies while almost without exception those submitted to cerebral inoculations died of symptoms of furious rabies. It might surprise some to learn that the disease which they were inoculating was a true germ disease, the germ being that which had been found in tetanus. About thirty years ago there was a disease among dogs in Iceland, communicated by bite. It affected only dogs, and they all died. On examination typhoid ulcers were found in the intestines, and during life they had frequent stools. The suggestion was made it was probably a form of typhus. Dr. Billings, of Nebraska, had written him that he had isolated a germ different from the one Dr. S. had found, which produced a disease in dogs of fixed duration. From these facts Dr. Spitzka inferred that the question of rabies in dogs would solve itself in this way, that there had heretofore been recorded as rabies complex symptoms common to many different diseases; and that there were a number of intrinsic as well as facultative affections among dogs which presented these symptoms.

Dr. Gray, on being called upon to close the discussion, said he thought there was little to be added except to remark that the diversity, and in some instances, irreconcilable views brought out showed that the discussion of hydrophobia at this time was opportune. The discussion seemed to have proved that there was a disease in the lower animals known by the generic name rabies, which really was not a single disease, but made up of several, probably due to different micro-organisms; second, that that disease occured much more frequently in lower animals than a similar disease known as hydrophobia oc-

curred in the human subject; that while this so-called rabies in animals occurred not very often in this country, it occurred still less frequently in man; that very few physicians had seen a genuine case; that pseudo hydrophobia was by no means very unusual; that there seemed to be a difference of opinion among the speakers whether pseudo-hydrophobia ever produced death; that there was considerable diversity of opinion concerning the exact value of Pasteur's method.

THE NEW YORK ACADEMY OF MEDICINE.

SECTION ON THEORY AND PRACTICE OF MEDICINE.

Stated Meeting, November 18, 1890.

FRANCIS DELAFIELD, M.D., CHAIRMAN.

The Indications for Trephining in Epilepsy.—DR. J. C. MINOR read a paper on this subject. By the administration of drugs, and the careful regulation of diet, exercise, and general hygienic measures, he said, we might hope to cure about one half of all cases of epilepsy, which experience had shown was not an affection that disappears spontaneously. It was among the other half that surgical interference had its field. While, however, all epileptics are subjected to medical treatment, only a small proportion of those unrelieved by such treatment came under the observation of the surgeon. Of these, a majority were rejected, as not appropriate subjects for operation; but of those who were operated on, more than one-half were cured, over one-sixth were relieved, about twenty per cent. died, and about three per cent. were neither better nor worse for the operation. Within the last ten years the mortality had been largely decreased by the application of antiseptics to brain surgery, and the favorable results had increased in equal proportion.

The conclusions reached by Dr. Minor from his study of the subject were as follows: "We have, then, three main indications for trephining in epilepsy that hold good, provided medical treatment or the removal of peripheral irritation by other methods fails to cure or relieve.

"1. In the distinctly traumatic epilepsies following depressed fractures and other lesions of the skull.

"2. In the traumatic epilepsies in which the only visible lesion consists of a scalp wound that is sensitive or tender, and upon which pressure develops either an aura, vertigo, or an epileptic seizure.

"3. In all epilepsies, whether traumatic or not, in which the character and development of the seizures is such as to indicate a definite motor area as the seat of a cortical lesion."

The contraindications, he went on to say, were in brief those that might be applied to cases of such long duration as to lead to marked mental degradation, to cases in which from the first the seizures had been general and sudden, to cases where the general symptoms indicated an extensive cerebral degeneration, and to cases where, in addition to any or all of these conditions, there was nothing in the symptoms or history of the case to indicate a definite or circumscribed lesion of the cortex that could be reached and removed.

As regards the whole subject of trephining in epilepsy, while there was good reason for satisfaction with the results of surgical treatment in these cases, he was quite sure that one of the plainest lessons taught by all this experience was that of the added dangers and difficulties that arose from unnecessary delay in resorting to surgical treatment. Certainly in traumatic epilepsy it was unwise to wait until the increased frequency of the seizures had reduced the patient to an imbecile or idiotic condition before adopting surgical methods of relief. Long before this stage had been reached any competent physician could determine with sufficient accuracy the prognosis of a case of epilepsy under medical treatment; and the proper time to operate began as soon as it became evident that other methods were ineffectual. While it was unwise to advocate undue haste in operating upon these cases, it was equally wrong to defer the operation to such a degree as to materially diminish the chances of recovery.

Surgeons themselves had been led to delay the operation, because the mental symptoms were not very marked, because the seizures were not repeated every day, because the progress of the disease was not rapid; and, finally, after all this had been reversed, the mind impaired, the seizures frequent, and the progress of the disease accelerated, so that the patient's chances of recovery had been greatly diminished by these complications, then the failure of the operation to relieve the condition had contributed to the very prejudices and conservatism that had distinguished the treatment. There could be no question, he thought, that the best results follow the earliest operations, and these results applied not merely to cure or relief, but also affected the question of mortality. It was, therefore, important to bear in mind that the persistence of the primary lesions has a marked influence in determining later and graver symptoms, and that if an operation was needed at all, the sooner it could be done the better for the patient.

Discussion.—DR. ROBERT F. WEIR said that nothing could be added to the rules for surgical interference laid down by Dr. Minor in his paper. The indications thus presented would, he thought, be accepted as judicious by all the principal authorities at the present day, and were in entire accordance with those given by Bergmann in his last lectures. While he had had quite a number of cases himself, he did not feel at all justified in speaking on this subject from his own experience, and he did not think anyone, not even excepting Horsley, had met with a sufficiently large number of cases to enable him to arrive at any positive conclusions from such experience alone. There was one point which was somewhat discouraging, and that was the fact that the mortality from operations still remained so high, ranging from twenty to fifty per cent. It must be remembered, however, that brain surgery was as yet a comparatively new field, and that many of the fatal results occurred under the hands of those who were operating for the first time. Even among the more experienced operators he thought more violence than was necessary was not infrequently employed. But these were errors which would be corrected, at least to some extent, as time went on, and he had no doubt that in the future better results would be reported than had as yet been attained.

DR. ROBERT ABBE, who was to have taken part in the discussion, was unable to be present but sent a note in which he said: "My experience is limited to two trephinings for traumatic and two for idiopathic epilepsy. The cases of idiopathic trouble were victims of degenerating mental state, both being boys of about twelve years. One was often violent after his attacks. I operated less than a year since upon him. The attacks ceased, and his mental state greatly improved. After six months there was a return of his malady, and he required restraint in an asylum. At the operation I opened the dura and found the meninges in a condition of engorgement, and also œdema, suggesting a low grade of inflammation, or at least one of irritation.

"The second case I operated on only three weeks since. There were half a dozen attacks daily. The meninges were also in much the same condition as in the former case. The attacks ceased at once. Primary union of the wound occurred, and the lad was taken to Nova Scotia by his father, who is a physician. No recurrence has yet been reported.

"I feel strongly conservative in regard to the operation for functional epilepsy; but believe it may, and should be tried, with expectation of temporary relief at least, in cases of a severely progressive or degenerating type."

DR. E. D. FISHER said that many of these traumatic cases occurred in children affected with spastic hemiplegia. Although in so many of the cases there was a one-

sided lesion, the attacks for the most part were general in character, not being in any way localized. He had had himself some thirty or forty such cases. When a scar was present it was generally found that no change whatever was produced by pressure on the scar. It was a question, therefore, whether the removal of this scar would be warranted, or would be a good thing to accomplish. In these cases of epilepsy with spastic hemiplegia in children it had been advised to trephine, and reports had been published to the effect that, as a result of the operation, the mental condition had improved and the seizures had disappeared.

There were one or two questions which he said he would like to put to Dr. Minor. In the first place, when a scar was present, but when no irritation apparently resulted from it, and the attacks were general in character, would he advise operation? In the second place, he would like to ask whether trephining, irrespective of any local seizure, would be warranted. This he knew had been done, and if the operation was performed with ordinary care and adequate antiseptic precantions, he did not think it was attended with any special danger. It seemed to him that in these extreme cases we were justified in trying to do something for the relief of the patient.

He then mentioned a case that he had met with where the epilepsy resulted from the kick of a horse. In such a case, he said, we would naturally expect to get good results from operating. Yet, after a few weeks subsequent to the trephining the patient was as bad as ever, and there had been no improvement since. The point of chief interest to him about this whole matter was whether in idiopathic epilepsy without a localized seizure we are warranted in resorting to operative interference. His experience would certainly teach him that in instances where blows or other injuries apparently lie at the bottom of the trouble, the cases are apt to go on to general epilepsy.

Dr. M. P. Jacobi called attention to the suggestiveness of a case reported by Dr W. W. Keen, to which Dr. Minor had referred in his paper. It was as follows: In 1888 an epileptic was sent to Dr. Keen for operation. Being in doubt as to the existence of a depression, he first made an exploratory incision in the scalp. He then lifted a flap and found nothing. The operation was performed under strict antiseptic precautions, and the wound rapidly healed without any rise of temperature. One month later the patient was trephined and the cerebral centre for the left hand and wrist excised. During this operation it became necessary to invade the territory covered by the flap of the exploratory operation. Under this area the dura was noticeably more adherent to the bone than elsewhere. This, said Dr. Minor, taught the important lesson that a marked lesion within the cranium may follow a slight traumatism on the exterior; and it followed that if Keen's exploration of the scalp, so carefully done and so perfectly healed, was followed by a lesion as marked as he described, we might reasonably expect that in many scalp wounds, where no such surgical skill or attention was received, the adhesions of the dura beneath the point of injury might, as Macewen termed it, "anchor the brain to the bone," and thus become a potent factor in the production of epilepsy.

Dr. Fisher said that it had always seemed strange to him that while injuries to the brain frequently caused epilepsy, surgical operations upon it were not followed by this affection. He had never seen epilepsy produced as a result of experimental investigations upon the brains of animals, such as dogs, monkeys, etc.

Dr. Landon Carter Gray said that, like Dr. Weir, he thought that Dr. Minor had presented the subject with good judgment. But still the question arose at the very start, What is epilepsy? We know very well that it was merely a symptom, just as fever and cough were. We might search through the whole field of neurology, however, without being able to find out what it was a symptom of. This was a point that had never as yet been determined. Another question of importance was, Whether, when a reflex, peripheral, or other cause had been removed, the epilepsy would not continue?

In the third place, it had been found that epilepsy was apt to be relieved by any operation upon any part of the body. In fact, any strong impression upon the peripheral nerves would be likely to have this result. This being the case, we were not in a position to judge of the permanency of the cure or relief in the vast majority of cases of operation, because the subsequent histories of the patients were not given for a sufficient length of time following the operation. It was, moreover, a well established fact that many cases of epilepsy would go spontaneously for months and years without a fit. The trouble practically ceased for these long periods. At the time when phimosis was considered of so much importance he had seen the operation for the relief of this condition do quite as much good in epilepsy as had ever been reported from trephining. In the same way, he had seen the removal of a piece of skin from the buttock have a most beneficial effect. When these things were taken into consideration, therefore, it could be seen that there was considerable room for doubt as to the real efficacy of trephining.

Many of the cases of epilepsy dated back from infancy or early childhood, when lesions were produced by parencephalitis or meningitis which it was utterly impossible to remove. In adults some cases were called idiopathic simply because no one had been able to determine what the pathological changes present were. As to traumatic epilepsy, of course, if you could find a cicatrix and remove it, you might perhaps do good; but it was well to bear in mind that just as much good could be accomplished by the operation for phimosis. Even where there had been depression of bone the epileptic habit might continue after this condition was removed. In the brain we could now localize for a certain number of things, such as the extremities, speech, etc., but beyond this all was pure speculation.

In any case of epilepsy, however, it was certainly desirable to know whether the lesion was within reach or not. If the growing doctrine that cortical lesions alone give rise to epilepsy should prove correct, it would be a great point gained for the surgeon, and much might be hoped for the future. There was a certain amount of ground for this opinion, and that subcortical lesions do not produce any loss of consciousness. As he had said before, the histories of the cases of operation were, as a rule, sadly lacking in completeness. He had seen cases of idiopathic epilepsy go for ten years without a fit, and others had reported cases which had no fit for twenty years. This whole question of operation in epilepsy, must, therefore, be regarded as still distinctly *sub judice*, and any advance that might be attempted must be made very carefully and slowly.

Dr. Minor said, in closing the discussion, that the indications for trephining as he had given them had been drawn, not from any special theory as to the nature of epilepsy or its forms, but simply from the records of clinical cases. By judging from clinical experience he had tried to avoid any discussion as to its nature, and he had not consulted tables of statistics (all of which were imperfect) so much as the original reports of cases, as far as he could get at them. As to the matter of a scar, trephining, of course, caused a scar, and several cases were on record where the operation itself had been the cause of a reproduction of epilepsy.

In reply to Dr. Fisher's inquiry as to whether it was justifiable to operate in cases of idiopathic epilepsy when the convulsions were general, and no scar was present, he said that he had trephined in one such case, and the patient was at all events no worse than he had been before. The place selected for the operation was over the fissure of Rolando, and he did not go below the dura mater. This was now over ten years ago. The question of cerebral pressure, due to a disparity between the skull and its con-

tents came up, and the case was supposed to be one of too early ossification of the cranial bones. He thought that he was warranted in trying to relieve the patient by operation; but this was not followed by any result, and he was now in a lunatic asylum. After that he gave up the doctrine of cranial pressure, which certainly did not seem to hold good in the case of the flat-headed Indians, who he had never heard were especially subject to epilepsy. As to the presence of a scar being an indication for trephining, he thought that in his paper he had given about all the data that were warranted by clinical evidence.

Correspondence.

HOW TO GET ALONG IN VIENNA.

(From our Regular Correspondent.)

VIENNA, December 1, 1890.

THE first questions which a student needs to have answered here are, Where am I to live, and from whom obtain instruction? Only those who have had to work out for themselves answers to these interrogatories amid the intricacies and reticences and exasperations of other European medical centres, can appreciate the difficulties involved. In Vienna, however, the matter is made very simple by the Anglo-American Vienna Medical Association, whose office is at 12 Landesgerichts Strasse, near the hospital. This organization is under the supervision of the Rev. Francis Gordon, a young clergyman sent some five years ago by the Free Church of Scotland to take charge of their mission in this city. Very early Mr. Gordon interested himself in the needs of the medical students who form so large a proportion of the English-speaking foreign contingent and of his congregation; and his efforts and those of his helpers finally, in 1889, crystallized in the formation of this association. Its purpose is to give information on all subjects interesting the student, from a course in cerebral localization to the address of a good shoemaker. A committee is appointed from among the students who have been longest in Vienna, and know the ins and outs of work here. These gentlemen are very kind and painstaking in their efforts to help new-comers. The membership fee of the association is one gulden (forty-five cents), and there are no other expenses.

After settling himself and his belongings in some room or *pension*, the stranger will naturally go first to the General Hospital. To one accustomed to the splendid modern structures of New York, Boston, Berlin, or London, the first view of the *Allgemeine Krankenhaus* is not pleasing. Begun in 1784, and added to from time to time as the city's growth demanded, it now consists of a huge, rambling, two-story stucco building, accommodating two thousand patients, and enclosing in its different communicating quadrangles some thirteen courts. The first of these is large, and contains trees and pretty walks, and several of the other courts, though much smaller, are similarly laid out. The whole effect is, however, rather shabby. In the rear of the main hospital stand the Pathological Institute and the Asylum for the Insane—handsome buildings of the modern type.

The lecture-rooms and operating-theatres are old and disappointing. Billroth's and Albert's amphitheatres are cramped, poorly lighted, and ventilation seems not to be even thought of. Hence, after a couple of hours' use by a crowd of Austrian, Polish, and Bohemian students, the air becomes very disagreeable. But one quickly accommodates one's self to these unpleasantnesses, and really forgets them in admiration of the wealth of material exhibited and the skill of the operators.

In the immediate neighborhood of the General Hospital are the long Poliklinik, where instruction is also given all day long and material, numerous corps of teachers. Instruction thus assembled, centralized; and the loss of time and length which one suffers in other cities by long horse-car and omnibus journeys to and from clinics, is prevented.

Probably one of the earliest impressions made upon an American is of the indifference, carelessness, and even cruelty, with which patients are often treated. And this is true of Germany, as well as of Austria. One sees painful operations done without anæsthesia, when the operator is pressed for time; he sees patients stripped, and then covered simply with towels wet in antiseptic solutions, and exposed to deadly chill during long operations in cold amphitheatres—the patient being often required to leave the room afterward wet and naked. He sees women submit to vaginal examinations by a class of nine or ten students, her expressions of suffering being often repressed with great roughness; he sees pregnant women, and women already in labor, chloroformed, and measured, palpated, and examined, inside and out, by classes similarly large, the narcosis terminating with the curiosity of the students. It is often a cause of wonder that so many patients live to establish the reputations of German and Austrian operators, and the question often arises among the American spectators whether hospital patients here are not tougher than with us.

There is also often a lack of delicacy, not to say decency, in the conduct of hospital work. For instance, it takes the stranger from abroad quite aback to see the male patients of the skin and venereal clinics ushered entirely naked into the presence of the professor by a woman; and dressings and applications, even urethral injections, made by the same unblushing female. But these matters soon lose their early novelty, or are swallowed up in the interest which the great opportunities for observation excite.

CARE OF THE PRIVATE INSANE.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In your issue of November 29, 1890, you allude in a very brief but forcible manner to the inequalities of the recent New York State law in its application to the care and treatment of the private or paying insane. This class of patients, it would seem, are excluded under the law from admission to your State hospitals, and must seek medical treatment in institutions owned and controlled by private individuals or corporations. To persons of moderate means, who are able and willing to pay a reasonable price for the treatment and maintenance of their afflicted friends, this is manifestly a great hardship, if not a positive injustice. In Alabama, and possibly in most of the States, the same unjust discrimination is made in favor of the indigent insane, and in such of our State hospitals as admit the private or paying insane at all, preference in order of admission is invariably given to the indigent over those who are able to pay their own expenses. The result of this arrangement is that the paying patients are soon crowded out of the State institutions, and are compelled to seek admission in some of the private hospitals.

During my long connection as Superintendent of the Alabama Insane Hospital, I have more than once referred to this matter in my annual reports to the Legislature, and in my last report, just printed, I have made such suggestions and recommendations looking to the removal of the evil complained of, as I am sure will meet with your approval. I submit the following extract from my report:

"**Private or Paying Patients.**—Of the one thousand and fifty-four patients remaining in the hospital at the close of the present fiscal year, forty five are shown in the foregoing table to belong to the private or paying class. The charges for this class of patients vary from twenty to sixty dollars per month, according to the special care and kind of provision they are able and desirous of securing. They occupy rooms in the wards with the other patients, but take their meals at separate tables, and in many cases have special nurses.

"For many reasons it would be better to place these private or paying patients in separate wards, or better still, in a building set apart for their exclusive use. Such a building could easily be erected on our present grounds, and could be made an ornamental as well as a most useful adjunct to our present plant. The building should be of the most approved modern construction, capable of affording such comfort and even luxuries as the most fastidious could desire and were willing to pay for. While the cost of such a building, capable of accommodating one hundred patients, need not exceed a hundred thousand dollars, the receipts for board and medical attention would yield a handsome revenue to the State over and above all expenses. A building of this character could hardly fail to prove a great blessing to such of the citizens of the State as are able and willing to pay a reasonable price for the care and treatment of their insane friends and relatives, and who would prefer to have them as near home as possible. As a pecuniary investment alone, such a building as I have described would well repay the State for the amount expended in its erection.

"I believe that there should be a building exclusively for private or paying patients attached to every public hospital for the insane in the land. Our State institutions need just such an adjunct to make them complete and capable of conferring the greatest benefit upon the people of the State.

"On account of the crowded condition of our wards we have had to decline receiving many paying patients both from our own and other States. Having no suitable accommodations for persons who are able and willing to pay for them, we have found it necessary to direct them to private asylums in other States, where the charges were double and often treble what they are in this hospital. This is a great hardship upon the citizen and tax-payer, who, though able and willing to pay a reasonable amount for the care and treatment of his insane relative, is not able to meet the extravagant demands of the private asylums away from home.

"No institution for the insane, in my judgment, can therefore be considered thoroughly equipped or complete in its arrangements that does not provide for the reasonable wants of all classes of the insane; and I should like to see Alabama take the initiative in a measure so humane, and at the same time so conducive to the comfort and welfare of the better classes of her citizens."

Yours truly,

P. BRYCE, M.D.,
Sup't Alabama Insane Hospital.

TUSCALOOSA, ALA.

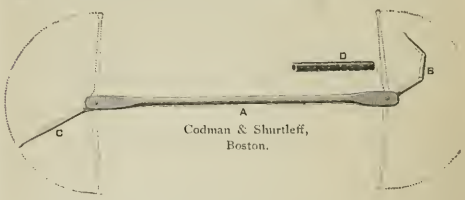
New Instruments.

NEW UTERINE REPOSITOR.

BY R. A. KINGMAN, M.D.,
BOSTON, MASS.

THE uterine repositor is by no means the gynecologist's most useful instrument. Indeed it is comparatively seldom that the need of it is at all recognized, and yet when it is really wanted there is nothing that will satisfactorily take its place. Time and again have I looked over the manufacturers' stocks of instruments for a repositor which seemed to me to meet the requirements of the desired service, but in vain. Emmet's repositor I liked better than any other, but still for certain cases it failed utterly. Jennison's elastic sound appealed strongly to the reason, but it was not strong enough to replace a uterus. Other instruments were all more or less unsatisfactory, so that I was forced either to rest content with what the market so imperfectly supplied or devise an improvement.

The instrument made for me by Messrs. Codman & Shurtleff, after my plans, worked so admirably that success seemed to have been attained, but unfortunately it was found that one of the working parts invariably broke after a short period of usefulness and most careful tempering did not obviate the difficulty. Here the matter rested until, after much experimenting by the firm, the instrument figured below was produced, modelled on the old plan, but introducing a much simpler mechanism.



A straight bar of steel, working in a tube, transmits the power from one rack and pinion to another exactly similar at the uterine end. The two ends being always parallel, as in the case of the sound mentioned above, the external tip serves as a guide to the position of the uterus, and the power being directly transmitted to the uterus without loss or addition, save as it is slightly affected by the friction of the parts, one's operating hand receives prompt notice of any adhesion or resistance and there can be no excuse for using undue violence. The instrument is reversible, the hard rubber tube D transforming the jointed tip into a rigid handle if desired.

I have found this repositor of great value for replacing and holding in approximately correct position the dislocated uterus during firm packing, the progress toward a complete reposition being much more rapid than under other circumstances. The fact that the instrument is strong, not liable to deteriorate or get out of order, and is easily cleaned, is strongly in its favor.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from December 21 to December 27, 1890.

RAYMOND, THOMAS M., First Lieutenant and Assistant Surgeon. Having been ordered to temporary duty at Vancouver Barracks, Wash., by the Commanding General, Department of the Columbia, is assigned to duty at that post, and relieved from further duty at Fort Sherman, Idaho. S. O. 294, A. G. O., Washington, D. C., December 17, 1890.

TAYLOR, MARCUS E., Captain and Assistant Surgeon. Paragraph 17, Special Orders No. 287, December 9, 1890, is so amended as to direct him to report to the commanding officer at Vancouver Barracks, Wash., for duty as post surgeon, relieving Colonel Bernard D. Irwin, Surgeon, of that duty. S. O. 274, A. G. O., Washington, D. C., December 17, 1890.

EBERT, RUDOLPH G., Captain and Assistant Surgeon. Will be relieved from duty at Vancouver Barracks, Wash., upon the arrival of Captain Taylor, and will then proceed to Fort Huachuca, Ariz. Ter., and report in person to the commanding officer of that post for duty. S. O., 274, A. G. O., Washington, D. C., December 17, 1890.

COWDREY, STEVENS G., Major and Surgeon. By direction of the Secretary of War, the extension of leave of absence granted in Special Orders No. 263, November 10, 1890, from this office, is further extended on account of sickness. S. O. 293, par. 4, A. G. O ington, D. C., December 16, 1890.

IVES, FRANCIS J., Captain and Assistant Surgeon, now on leave of absence. By direction of the Secretary of War, will proceed to Rapid City, S. D., and report in per-

son to Colonel Eugene A. Carr, Sixth Cavalry, for duty with troops in the field, relieving First Lieutenant William B. Banister, Assistant Surgeon, and reporting, also by letter, to the Commanding General, Department of Dakota. S. O. 289, par. 18, A. G. O., Washington, D. C., December 11, 1890.

STEPHENSON, WILLIAM, Captain and Assistant Surgeon. Granted leave of absence for fourteen days, to take effect on or about December 29, 1890. S. O. 291, par. 18, A. G. O., Washington, D. C., December 13, 1890.

REED, WALTER, Captain and Assistant Surgeon, now on duty at Baltimore, Md. By direction of the Secretary of War, will report in person, without delay, to the commanding officer at Fort Keogh, Mont., for temporary duty at that station, and by letter to the Commanding General, Department of Dakota. S. O. 291, Headquarters of the Army, A. G. O., Washington, D. C., December 13, 1890.

OWEN, WILLIAM O., JR., Captain and Assistant Surgeon, now on leave of absence. By direction of the Secretary of War, will report in person, without delay, to Colonel Eugene A. Carr, Sixth Cavalry, at Rapid City, S. D., for duty with troops in the field, and by letter to the Commanding General, Department of Dakota. S. O. 291, par. 17, A. G. O., Washington, D. C., December 13, 1890.

SMART, CHARLES, Major and Surgeon. By direction of the Secretary of War, detailed as a delegate to represent the Medical Department of the Army at the annual meeting of the American Public Health Association, to be held at Charleston, S. C., December 16 to 19, 1890. He will proceed to Charleston accordingly, and upon the final adjournment of the Association return to his station in this city. S. O. 290, par. 2, A. G. O., Washington, D. C., December 12, 1890.

WALKER, FREEMAN V., First Lieutenant and Assistant Surgeon. By direction of the Secretary of War, the leave of absence granted in Special Orders No. 85, Department of the Platte, November 11, 1890, is extended one month. S. O. 298, par. 9, A. G. O., Washington, D. C., December 22, 1890.

COCHRAN, JOHN J., Captain and Assistant Surgeon. By direction of the Secretary of War, granted leave of absence for six months on surgeon's certificate of disability, with permission to leave the Department of Texas. S. O. 298, par. 2, A. G. O., Washington, D. C., December 22, 1890.

GIBSON, ROBERT J., Captain and Assistant Surgeon, now on leave of absence. By direction of the Secretary of War, will report in person, without delay, to the commanding officer, Fort Meade, S. D., for duty with the Seventeenth Infantry, in the field, reporting by letter to the Commanding General, Department of Dakota. S. O. 297, par. 6, A. G. O., Washington, D. C., December 20, 1890.

Official List of Changes in the Medical Corps of the United States Navy for the week ending December 20, 1890.

EVANS, SHELDON G., Assistant Surgeon. Ordered to Naval Academy, Annapolis, Md.

DECKER, CORBIN J., Passed Assistant Surgeon. Detached from Naval Academy, and ordered to Naval Hospital, Philadelphia, Pa.

A New Diuretic.—Dr. Gram, of Copenhagen, has lately introduced a new drug known as diuretin. It is made by combining theobromin in such a way as to make it exceedingly soluble, of rapid absorption, and very pleasant to take. It has been tested clinically in Strassburg; is found to act directly on the kidneys without any action on the heart or nervous system, such as we have in digitalis and caffeine.—*Dietetic Gazette.*

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending December 20, 1890.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	9	5
Scarlet fever	108	11
Cerebro-spinal meningitis	1	1
Measles	253	19
Diphtheria	94	31
Small-pox	0	0
Varicella	8	0
Pertussis	7	7
Croup	1	0

A Correction.—In the issue of the MEDICAL RECORD for November 22, 1890, Dr. Woodward is mentioned as the author of an article in the *Journal of the Military Service Institution* concerning the United States Army Medical Department. A correspondent calls attention to a typographical error in that the author of the article in question was Lieutenant-Colonel A. A. Woodhull of the Medical Department United States Army.

In Memory of Richard J. Levis.—At a special meeting of the Faculty of the Philadelphia Polyclinic and College for Graduates in Medicine the following preamble and resolutions were unanimously adopted:

"*Whereas*, The Divine Ruler of the Universe has seen fit to remove from among us Dr. Richard J. Levis, our friend and colleague; therefore, be it

"*Resolved*, That not only in the Emeritus Professor of Surgery of the Philadelphia Polyclinic, but the whole medical profession have lost an honored and faithful co-laborer; and the community have cause to mourn a skilful and learned physician, an honest and sympathizing friend.

"*Resolved*, That by his kindness of manner, by the thoughtful interest which he always manifested in the younger members of the profession, by his encouragement, his earnestness, and his example he had endeared himself to all, and that we fitly honor and cherish his memory we must emulate his zeal and vie with each other in carrying forward the great work in which he was so ardently engaged.

"*Resolved*, That we tender to his family in this sad hour of affliction our heartfelt sympathy.

"*Resolved*, That these resolutions be handed to the family of our beloved colleague and to the medical journals.

"THOMAS J. MAYS, *President.*
"S. SOLIS COHEN, *Secretary.*"

Chestnuts for Ivy-poisoning.—Dr. S. B. Straley (*Times and Register*) has found that a strong decoction of chestnut leaves (*castanea fagus*) promptly cures ivy-poisoning. Dr. J. Aban Kite cotemporaneously announces (*Medical News*) that lotio niger is also a specific.

Suicide among School Children in Prussia.—Recently published statistics show that there is more "overpressure" among school children in Prussia than in England—or, at any rate, that it leads to more tragic results. In the six years 1883-88 there were 289 cases of suicide among school children in Prussia, 240 of them having been boys and 49 girls. The cases are apportioned among the different years as follows: In 1883 there were 58 suicides; in 1884, 41; in 1885, 40; in 1886, 44; in 1887, 50; and in 1888, 56. In 86, or 29.8 per cent. of the cases, the motive of the deed is unknown; but in 80 the cases, were "fear of punishment;" in 19, "disappointed ambition;" in 16, "fear of examination;" and in 28, "insanity and melancholia;" 5 of the suicides are attributed to "love," and 7 are believed to have been half unintentional.

Calculi in Dermoid of the Bladder.—A woman, aged fifty-seven, under the care of Dr. Feleki, of Buda-Pesth, complained to him that she had suffered for eight years from distressing dysuria. Sometimes she was forced to rise twenty times in the night, and could only pass one drop on each occasion, and always with severe pain. This condition lasted for several weeks at a time, and ended, temporarily, in the passage of a smooth, hard body, at first taken for a renal calculus. At length the patient owned a large collection of small stones, not including innumerable minute fragments passed and lost during micturition. She declared that her urine was free from sediment, and not turbid. The bladder was explored, and a mass of calculi discovered and broken up and removed by litholapaxy. About two hundred pieces of calculus were thus taken away. Each entire calculus had a nucleus, or rather an axis, consisting of a fair hair (human, as was proved), over an inch in length; some of the hairs were connected with three or four small stones, so as to form bead-like structures. Many such rows of beads had been passed voluntarily. The calculi were phosphatic, ranging from the size of a melon-seed to that of an almond. There was no evidence of the artificial introduction of hair into the bladder. The pelvic viscera were carefully searched, and no evidence of dermoid tumor in connection with the pelvic organs outside the bladder could be detected. This fact, coupled with the presence of the curious rows of calculi strung on single hairs, indicated that the original disease was trichiasis vesicæ, an "open dermoid" or growth of hair direct from the vesical mucous membrane. No other dermoid structure, besides hair, was at any time voided or extracted from the patient's bladder.—*British Medical Journal.*

The Fever in Scarlatina.—Dr. Reimer, basing his statements upon a large number of thermometric tracings, divides scarlatina into the following forms:

	Per cent. of Mortality.
1. Simple or uncomplicated scarlatina.	
a. Mild	0.0
b. Severe	83.76
2. Complicated.	
a. Short, mild	2.08
b. Short, severe	6.94
c. Long, benign	5.66
d. Malignant	39.34
e. Prolonged, benign	26.47
Malignant	79.99
3. Scarlatina following other diseases	81.96
4. Scarlatina followed by other diseases	44.32

In the treatment of three thousand four hundred and sixty cases of the disease, nine hundred and seventy-eight were subjected to hydrotherapy, which was used with the idea of reducing the temperature in the following forms: 1, Cold compresses; 2, cold envelopment; 3, cold with dry friction; 4, cold with affusions of water in the empty tub; 5, cold with affusions in a half-bath progressively cooled; 6, short or long tepid baths; 7, full baths gradually cooled; 8, cold half and full baths with friction. Cold compresses upon the head, thorax, and abdomen were frequently used, except in cases in which the restlessness of the patient was so great as to make its use too difficult. Their action was favorable upon the heart, but they did not lower the temperature to any great extent. Cold envelopment was used, especially in nervous, anæmic, or rachitic children. There was a favorable action upon the heart, but hardly any effect upon the temperature. Cold envelopment combined with dry friction was used in cases in which it was desired to produce cutaneous revulsion and excite the nervous system. Under their influence the respiratory movements became more regular, but the temperature showed no change. Cold envelopment combined with affusions of water in the empty tub, the temperature of the water being 54 to 57° F., were tried in cases of cyanosis, stupor, and collapse. This treatment, used with all proper precautions, generally gave good results, but there was no effect on the temperature. Results quite as favorable were obtained with cold envelopment followed by affusions in a gradually cooled bath. In some of these cases the phenomena of collapse were notably aggravated, hence this method calls for unusual precaution in its use. The effect of prolonged tepid baths was bad. The temperature was unintluenced and a general weakness resulted, which in some cases was of a threatening character. The same was true in all cases in which a gradually cooled bath was used. Such baths have a sedative effect in typhoid fever, but in scarlatina their effect is pernicious. The efficiency of full cold baths in scarlatina was undoubted if they were used methodically and with proper precautions. The patient is plunged into a tub half-filled with water at a temperature of 54° to 57° F. After removing him from the water he must be rubbed briskly and then wrapped in a woollen blanket. In such cases the temperature will frequently drop several degrees. The patients seem much relieved by such bathing, and will desire its repetition. It is impossible to give general rules for the use of hydrotherapy in scarlatina; the indications will vary with the progress of the disease. With regard to the treatment of the disease by the use of antithermic remedies internally, the author did not obtain favorable results with quinine, sulphate of soda, kairine, thallin, etc. On the other hand, the antithermic action of antipyrin never failed, but its use should be attended with the greatest care on account of the danger of collapse.—*Archives of Pædiatrics.*

Absence of Powder marks no Evidence against Suicide.—Dr. Meigs Case writes that in two recent cases of suicide of prominent men, both of whom had evidently shot themselves in the head, there were no powder-marks visible on the skin. In another case in New Jersey there was much said at the coroner's investigation about the absence of the usual areola of unexploded powder. The improvements made of late in the manufacture of powder have apparently destroyed the value of much of the evidence hitherto regarded as indubitable.

Permanganate of Potassium as an Application to the Bites of Poisonous Insects.—Dr. S. F. Dupon, of Fort Havack, Ga., writes that he has employed permanganate of potassium with striking success as an antidote to the venom of poisonous insects and fish. A solution in glycerine (℥ ij.–℥ j.) is applied externally, and has given speedy and positive results in his hands. He mentions the case of a boy, who had been stung by a spider on the thigh, and whom he found in great agony with thigh greatly swollen. Within an hour after the application of this solution the pain had disappeared and the swelling was much reduced. Another case was that of a negro boy who had been stung by a "stingaree" (a salt-water fish), and who was in convulsions when found. In four hours after the application this boy had entirely recovered and returned to his fishing. Dr. Dupon has also found saleratus useful in similar cases, and recommends its use when the permanganate is not at hand. It should be made up into a paste with water, and applied to the bitten part.

Simultaneous Dislocation of both Shoulder-joints.—Mr. T. W. J. Allen reports the following case in *The Lancet* of August 9, 1890: "A young man, aged twenty-four, works on the Fish Dock driving a cart and packing fish. Within the last four years he has from different causes dislocated the right shoulder four times and the left shoulder three times, and on each occasion came under my observation. On one occasion Mr. Allen was called in to see him and found him suffering from a subcoracoid dislocation of both joints. He said that on getting hurriedly out of bed to assist an invalid brother he turned faint and fell, and upon recovering his senses found both his shoulders 'out.' The deformity was easily reduced by the heel in each axilla in the usual way."

Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 39, No. 2.
Whole No. 1053.

NEW YORK, JANUARY 10, 1891.

$5.00 Per Annum.
Single Copies, 10c.

Original Articles.

GASTRO-ENTEROSTOMY RATHER THAN RESECTION FOR CANCER OF THE PYLORUS, WITH A CASE OF GASTRO-ENTEROSTOMY.[1]

BY ROBERT F. WEIR, M.D.,

SURGEON TO THE NEW YORK HOSPITAL, PROFESSOR OF CLINICAL SURGERY, COLLEGE OF PHYSICIANS AND SURGEONS, NEW YORK.

GENTLEMEN: I beg to present for your inspection to-night a patient, aged forty-one, upon whom I performed, about one year ago, a gastro-enterostomy for the relief of a supposed fibrous stricture of the pylorus. At that time the symptoms had lasted two years, and his weight had been reduced to one hundred and four pounds. The operation was done by means of Abbe's catgut rings. The details of his symptoms and of the various steps of the operation were given at a clinical lecture at the time of operation, and have already been published elsewhere.[2]

The progress of the case was in every way satisfactory. The patient made a rapid recovery and has continued in fairly good health, increasing in weight, to the present time, some sixteen pounds. During the past two months, however, some moderate occurrence of the symptom of vomiting has taken place. Now, this return of one of his old troubles may perhaps be explained in one of several ways. It will be noticed that the cicatrix of the wound in the abdominal parieties has yielded somewhat, and allows a hernial protrusion upon coughing, or other expulsive effort, and this, too, in spite of the great care taken in sewing up the wound in different layers, *i.e.*, fascia to fascia, muscle to muscle, and so on—a procedure which is generally sufficient to secure a tight cicatrix.

It was at first supposed that the traction of the protruding intestine through the abdominal defect might be sufficient to increase the angle, temporarily at least, at which the intestine was attached to the lower wall of the stomach, and so to produce more or less obstruction at the new opening, or to force biliary secretion into the stomach; but on carefully applying a truss, or pad, no special improvement followed, nor were any biliary salts to be detected in the stomach by chemical reagents.

The next important question to decide was to determine whether the plan followed at the time of the operation was not at fault. At that time, after the abdominal cavity had been opened, the hand was carried down to the vertebral column, feeling for the head of the pancreas, and then passed to the left of the median line, falling upon a loop of intestine which was seized and traction made upon it. Had this met with resistance, it would have indicated, of course, that one was pulling upon a fixed point, the duodenum; but this was not the case, and after one or two repetitions of this effort to grasp in this way the upper end of the jejunum, instead of further persistence in this direction, the suggestion of Lücke, not to prolong the operative time in the search, was followed, and a loop of small intestine situated nearest to the stomach was caught hold of, brought out, incised, and sewn to the wall of the stomach. This advice of not unduly searching for the upper end of the jejunum, while in a great measure a wise one, and supported by the authority of the Strassburg surgeons, who had a succession of successful gastro-enterostomies, as well as by surgeons of eminence elsewhere, has a disadvantage which, to my mind, is quite an important one.

Lauenstein, for instance, in a case where he followed this procedure, was surprised to find his patient rapidly emaciating, and the stools daily showing masses of undigested food. At the autopsy, which took place at the end of eleven days, it was ascertained that the opening in the small intestine was situated within a short distance (fifteen inches) of the ileo-cæcal valve. Herbert Page, of London, also had a somewhat similar case—the intestinal opening being nine inches from the cæcum—the patient living seventy-three days after the operation.

Close observation of the fecal passages of my patient shows completely digested food, and the fact of his continued improvement in flesh is in itself proof that we have not opened too low down upon the intestinal tract and deprived him of an undue amount of nourishing intestinal area.

Another possibility existed, and it was this: that the opening made at the operation might have contracted to such a degree as to no longer permit food to freely pass from the stomach to the intestine. This is not a fanciful idea. Dr. Abbe had been struck by the fact of such openings contracting to a marked degree in one of his own cases of intestinal anastomosis. Czerny, who at one time contented himself with openings in gastro-enterostomy of but 3 ctm. long, advises now to make such larger, as had been previously suggested by Lücke; since in one case of his own, where an autopsy was made five and a half months after the operation, it was found that the artificial opening had been reduced in diameter to 9 mm., less than half a centimetre; and Stanfield also reports a case where, after the use of Senn's plates, with a one-inch incision in the stomach and bowel, at the autopsy, four months later, the opening was found to have entirely closed, though the silk stitches that held the plates together were found in situ. Ransohoff, also, in using Senn's plates with a one-inch opening, found at the autopsy, one month later, that the opening was smaller than the pylorus. Not only in my case was this improbable because the opening made at the time of operation with Abbe's rings measured two inches (or 5 ctm.), but by the two following tests this possibility was settled not to exist.

I may first say that the matters vomited by this man consisted largely of mucus free from biliary matters, which Lauenstein says when present does not, as some have stated, excite emesis; basing his remarks on several cases of gastro-enterostomy where these were found in the stomach continuously. The vomiting occurs about once a day. On, however, administering to him food the débris of which can be traced for a considerable time, such as highly salted corned beef, none such has been found in the matters ejected. This test has been repeated in a variety of ways. His food is therefore digested and presumably passed into the intestine.

More satisfactory was the second test. Air was pumped in through a rubber tube into the stomach. By this procedure this viscus could be only very moderately dilated, and when a stethoscope was applied to the region of the lower border of the stomach, gurgling of air into the adjoining intestine could be distinctly heard, and traced for several inches down the intestine. We therefore knew that he had no such impending danger as a

[1] Presented at the Surgical Section of the New York Academy of Medicine, December 8, 1890.

[2] Medical News, December 14, 1889.

too narrow opening into the jejunum. To all these considerations in explanation of his vomiting may be added the final fact that his condition has been much improved since his stomach has been daily washed out with plain or slightly alkaline water. In other words, that his stomach, which, prior to the operation, had been distended to such a degree as to hold ten pints of water, had by the long action of his stenosed pylorus become so stretched and atonied, that, like the same condition in the bladder, it does not regain its tone, its secretions are impaired, and no doubt it is baggy, and possibly, from sagging, holds secretions which, in a more active organ, would run out through the artificial opening, but now are retained till the act of vomiting relieves it of the accumulated contents. The lavage of the stomach and enforced rest on the right side is now rapidly lengthening out the intervals of vomiting. It is not thought advisable to attempt at present to close the weakened spot in the abdominal wall, unless it should be distinctly proven to be a cause of his existing difficulties, as it allows of increased facility of exploration for tumor, no evidence of which has yet presented itself to the touch, though recently hydrochloric acid is wanting in the gastric secretions.

In the remarks made at the time of the operation the end mainly aimed at was to present the advantages of gastro-enterostomy in pyloric stenosis over Loreta's operation of stretching the pylorus, and attention was called to the greater mortality of Loreta's operation—some forty per cent.—and to the disposition to recontraction which takes place, the originator himself having encountered this three times, in two of which cases a second operation was resorted to. It was from a consideration of these facts that the operation of gastro-enterostomy was advised and performed in this particular instance. At that time. I presented a list of nine gastro-enterostomies in non-malignant stenosis, with but eleven per cent. of mortality; and the operations, moreover, which made up this list were done according to the old method, and required a period of from one to two and a half hours for their performance. Since, however, the improved method introduced by Senn of using decalcified bone plates, to secure with the least amount of suturing the apposed peritoneal surfaces, when an opening is made between two portions of an intestine, or between the stomach and intestine, the mortality has been markedly lessened.

Instead of being, for instance, forty-two per cent. for cancer, as given by Rockwitz, the mortality was, by the approximation method, but one case in the eleven that I was able to collect up to that time. Since then the total number has risen to twenty-six cases, with five deaths—a mortality of nineteen per cent., or, leaving out McBurney's, nearly moribund when operated on, and Polk's fatal, from a remediable fault in the technique, there would be the satisfactory reduction in the death rate to twelve per cent. This is for cancer, remember—for non malignant stenosis, even by the old method of operation, the mortality was but eleven per cent. The decision I arrived at in my patient's case, stated concisely, was based on a mortality of eleven or twelve per cent. for a gastro-enterostomy, against a mortality of twenty-five to forty per cent. in Loreta's operation.[1]

To-night, in taking part in a discussion on the subject of pylorectomy, I venture to apply these very favorable statistics afforded by gastro-enterostomy for cancer, by intestinal anastomosis, in contrast to another operation, to wit, resection of the pylorus. This latter operation, introduced by Billroth, has been performed a sufficient number of times by competent surgeons for us to nearly make up our minds as to its actual value; and, I think, anyone who goes over the cases that are presented in the various journals, or, what is much better and fairer to the operation, should examine the statistics of those who are recognized—by previous large experience in general surgery, or in this particular operation—to be masters of the technique, it will be found that the mortality is yet so fearful and the prolongation of life so little, in the few that are saved, that it, as an operation, might be relegated soon to those which may be considered merely as experimental. I have long felt that it was an operation which had not much probability of a future. I do not yet see anything to change this view. In collecting, for instance, the cases presented by Billroth himself, 28 in number; by Anger, 6 cases; by Lauenstein, 12 cases; by Lücke, 24 cases, and by Czerny, 10 cases—one gets a sufficient number of well-managed operations to judge of the result. Footing up the total, we have 80 cases in all, and 41 deaths. Of those that survived, according to Billroth's report, 13 in number, 6 died within six months of the operation; 2 between the first and second year; 2 between the second and third year, and only 1 lived beyond three years. This last case may be considered to be a cure—the only one, save one other, recorded so far. Czerny reports that his three recoveries lived between five months and two years; and so on with the other surgeons quoted.

Now, the cases operated upon for cancer by gastro-enterostomy, in conditions which are admittedly more severe than those treated by a pyloric resection (for they were mostly cases that were not considered fitted for pylorectomy), lived according to Billroth, in 14 cases from one year to fourteen months; and according to Navaro, in 16 cases the duration of life extended from three to nineteen months. Now add to a continuance of life of nearly the same amount by gastro-enterostomy the fact of an increased saving of life by this operation, and the argument against a pylorectomy becomes very strong.

In the 96 cases of gastro-enterostomy that I have collected from the same observers there were only 39 deaths, and all these were done by the old method of operation, that is to say, a mortality of forty per cent. This percentage is carried down, as just stated, by the safer and quicker method of the approximation plates or rings, to twelve per cent., viz., 3 deaths in 24 cases. In other words, a twelve per cent. mortality by gastro-enterostomy, in the hands of surgeons of limited experience in the use of the improved method, can be placed against fifty-one per cent. of mortality from pylorectomy for cancer, by surgeons fully masters of the operation. Could, as it should be, a gastro-enterostomy be employed earlier in the disease, the death-rate would naturally be less than this even.

One further remark is this—that of the 22 deaths out of Billroth's 41 cases of pylorectomy for fibrous stenosis *and* cancer there were 16 deaths from the stitches giving way. This is due mainly to the inability in this region to always confront two serous surfaces together by suturing—the defect being of course in the duodenal end. The operation of resection, if such is practised, will, in the judgment I rendered last year, be better accomplished by a predetermined independent closure of the duodenal and stomach openings, by turning them in and suturing the same, and then resorting to a gastro-enterostomy in a *separate* part of the stomach. This can be done in less time than the ordinary resection, and this method of reunion of the divided ends proved successful in Tuholske's and Bull's cases.

In conclusion, reference has been made to the use of Senn's plates and Abbe's catgut rings, as being the most serviceable of all the various contrivances that have been suggested for keeping apposed the peritoneal surfaces and for expediting this operation, which in experienced hands should be accomplished in from thirty to forty minutes. Each of these appliances has its faults. This has already been alluded to in respect to Senn's plates: the opening is too small. This must be made very much longer, which is a matter not easily accomplished. They are not very readily made at home, and one must depend for this enlarged pattern upon the slow methods of our suppliers of surgical appliances. Abbe's rings can be quickly made of any size, but unless manufactured strictly in ac-

[1] See article quoted, Medical News, December 14, 1889.

cordance with the instructions of their suggestor [1] they may prove faulty to a serious degree.

In a case reported by Dr. William M. Polk, where gastro-enterostomy by Abbe's rings was resorted to, with a fatal issue, it was found on the autopsy that the rings, which had been made of catgut, had been twisted in a figure of **8**, and hence had pulled upon the stitches in such a manner as to cause a marked solution of continuity, and a disastrous leakage. Dr. Abbe guards against the error made in the case just alluded to by expressly stating that the catgut should be so placed in the immersion fluid that it can be freely untwisted, and that only such untwisted catgut should be used in the formation of these approximation rings. This, I understand, was not done in the above-described case. Furthermore, after being made, he says that they should be held until required for use—the longer, the better—between two plates of glass and kept immersed in alcohol. I have tested a number of rings of some date of Dr. Abbe's manufacture by throwing them into water, and found that this twist did not occur.[2] But the suturing in this case was carried only at each end through the walls of the stomach and intestine, instead of in six places as Dr. Abbe suggests. So far, I am still firm in my belief in the excellence of Abbe's rings. The plates of decalcified bone of extra length are unwieldy and too wide for the small intestine.

ON THREE CASES OF PYLORECTOMY WITH GASTRO-ENTEROSTOMY.[3]

By WILLIAM T. BULL, M.D.,

PROFESSOR OF SURGERY IN THE COLLEGE OF PHYSICIANS AND SURGEONS, NEW YORK; SURGEON TO THE NEW YORK HOSPITAL.

It seems strange that in this country, where so much good work has been done, both experimentally and practically, in the surgery of the abdomen, so few efforts have been made for the cure of cancer of the pylorus. American surgeons have recorded more cases of recovery from abdominal section for traumatisms than those of any other country, and the principles and technique of intestinal anastomosis have been worked out with great enthusiasm and applied with good results. Up to the present moment we seem to preserve the same attitude toward resection of the pylorus for cancer that was taken by an admirable writer in the *Medical News* of November 23, 1883, who, after reviewing the situation of the operation up to that date, writes: "Although the technique of the operation is almost perfect, the obstacles to the proper insertion of the sutures and to fashioning the wound of the stomach to that of the duodenum are not easily surmounted by the surgeon who has to deal with his first case. If to these difficulties be added the adhesion met with in so large a proportion of cases, along with the shock which, of necessity, must attend so prolonged an operation, it is obvious that pylorectomy must be excluded from general surgery. Indeed, in view of its great mortality, of recurrence in one half of the cases that had survived long enough to determine this point, and of the doubts as to the final termination of the remaining cases which were living at the last reports, it is questionable whether it should be repeated by those who have had the most experience with it."

This view, which is in my opinion quite rational in consideration of the state of our knowledge seven years ago, may account for the lack of interest in this operation. But it is a gratifying reflection to note that much progress has been made in a few years, that the "almost perfect technique" has been bettered, the statistics have improved, and that pathological facts have been brought to light which make operative possibilities more encouraging. So far as mortality is concerned, the death-rate of seventy five per cent., noted in above sixty cases by different operators up to 1883, has been, in the hands of one surgeon, Billroth,[1] reduced to fifty-seven per cent. (15 deaths in 26 cases), and still further to fifty-three per cent. (22 deaths in 41 cases),[2] and Kocher [3] has just reported three successive cases of recovery. Of 11 of Billroth's successful cases the duration of life before fatal recurrence occurred varied from four months to five and one-fourth years, and was, on the average, seventeen months. One of Kocher's cases lived three years and died, free from recurrence, of pyloric stenosis caused by peritoneal adhesions; another, aged sixty-three, was living and in good health at the end of two years, while the third fell a victim to stenosis of the pylorus and recurrence of the cancer at the end of six months. This improvement has been gained by the use of the unaided suture for the union of the stomach and duodenal ends after resection. Neither the bone plates of Senn nor any of their substitutes have been employed. But Rawdon,[4] of Liverpool, has performed his first case of resection with their aid and obtained a prompt recovery, and Jessett,[5] of London, and a number of American surgeons have demonstrated the advantages of "approximation plates" in gastro-enterostomy and circular enterorrhaphy which present similar technical difficulties with union after resection of the pylorus.

A new future seems possible for pylorectomy with this improved method, and I share the conviction of Matas,[6] who, in a thorough review on "The Present Status of the Operations of Intestinal Anastomosis," writes: "The operation of pylorectomy has been much simplified by the introduction of Senn's method, and, judging from the present outlook, the mortality of this most formidable procedure will be much diminished in the future." Another departure from the typical resection is the combination of pylorectomy with gastro-enterostomy, the cut edges of the stomach and duodenum being shut off so as to form a blind cul-de-sac, and an anastomosis made between the stomach and jejunum. This procedure, first adopted by Billroth after the removal of an unusually large tumor of the pylorus, and suggested to me by my colleague, Dr. R. F. Weir, has been followed in the three cases I am about to report and by Dr. Tuholske,[7] of St. Louis. Billroth, however, attached the loop of jejunum to the lower part of the wound in the stomach, a much more complicated procedure than the one I adopted—closing the stomach entirely and making by means of Abbe's catgut rings an anastomosis through a new opening in the anterior wall near the greater curvature. Tuholske's case died of shock, Billroth's from peritonitis due to faulty suturing. My first case recovered, the other two died from defects in technique. It is obvious that further experience is needed to estimate the value of this procedure, which is, however, not to be lost sight of, inasmuch as it may be unavoidable in the presence of any large growth, or, as has been pointed out by Mr. Jessett, in case the first part of the duodenum is but partly covered by peritoneum and thereby unsuited for satisfactory union with the stomach.

CASE I. *Pylorectomy and Gastro-enterostomy; Carcinoma of Pylorus and Greater Curvature of the Stomach; Recovery.*—Fanny T——, aged twenty-seven, born in Ireland, widow, was admitted to the New York Hospital March 4, 1890. Her general health had been perfectly good until April, 1889, when she began to have nausea and vomiting, with irregularity of bowels. She had never

[1] Medical News, June 1, 1889.

[2] In the discussion that followed Dr. Kammerer narrated an instance in which a catgut ring, prepared fully in accordance with Dr. Abbe's directions, twisted in a similar figure of **8** shape, and thus separated the line of suturing. An undecalcified bone plate was used in one case on the gastric side of the opening. It was found unchanged in the stomach at the autopsy, seven weeks later.

[3] Read before the Surgical Section of the Academy of Medicine, New York, December 8, 1890.

[1] Archiv für klin. Chir., Band 39. 835.

[2] Lancet, August 16, 1890, p. 209.

[3] Streit: Deutsche Zeitschr. f. Chir., 27, 410, 1888.

[4] Lancet, April 10, 1890, p. 800.

[5] British Medical Journal, 1889, p. 590.

[6] Vide Matas: New Orleans Medical and Surgical Journal, August, 1890.

[7] Medical News, vol. lvi., p. 503.

been pregnant. The gastric symptoms continued, gradually increasing in severity. The vomitus always consisted of ingesta, and never contained blood. The vomiting at first occurred just before eating, later soon after eating. Seven months ago symptoms abated temporarily and for two months she was apparently improving. Five months ago nausea and vomiting became more frequent and she began to have severe lancinating pain in the epigastrium. Four months ago she first noticed a small hard "lump" a little to the left of the umbilicus, which she could move with the hand. She also noticed that it changed with change of position. The tumor has gradually increased in size and has become more movable. There has been a gradual diminution of flesh and strength. She has lost thirty pounds during the last four months and has become pale and weak.

On admission to the hospital she was markedly anæmic and emaciated. Heart and lungs were found normal. In the recumbent position, occupying the central portion of the abdomen was a tumor irregularly quadrilateral in outline, four and three-fourths inches in transverse and two and one-half inches in vertical diameter. The upper, lower, and left borders were notched, while the right was distinctly concave. When displaced upward the tumor tended to move toward the left and could be felt almost in the normal position of the left kidney on bimanual palpation. It could be moved to the right as far as a line going through the anterior superior spine of the ilium, upward to a point two inches below the ensiform cartilage, and downward to a point three inches above the symphysis pubes. Manipulation was only painful when carried to an extreme, but was followed by an increase in nausea and vomiting. The kidney could not be felt on either side although the abdominal walls were thin and very lax.

The tumor was at first supposed to be a malignant growth of stomach, intestine, or kidney. After a consultation with my colleagues, Dr. Stimson and Dr. Ball, an exploratory median laparotomy was performed on March 8th. The tumor was found to be a new growth, evidently carcinomatous in character, occupying the pylorus and greater curvature of the stomach, and involving more of the posterior than anterior wall. The surface of the tumor was smooth, covered with peritoneum, and not unlike a kidney in outline and appearance. The kidneys were felt in normal position on both sides. The abdominal wound was quickly closed. A speedy and uninterrupted recovery ensued, and the patient left the hospital at the end of three weeks. The nature of the tumor was explained to the patient and a second operation for its removal proposed, its attendant risks being fully explained. On April 3, 1890, she returned, desirous of having the operation performed. She was put upon liquid diet every two hours and kept quiet in bed up to the day of operation, one week later.

April 10th.—In the interval she had some nausea and vomiting, and moderate pain. The vomited matter was carefully tested for free hydrochloric acid, but no trace found.

Urine, sp. gr. 1.008, alkaline, amber in color, contained a trace of albumin, and a few leucocytes; urea normal in quantity. On the day previous to the operation the bowels were thoroughly moved by cathartics, and on the morning of the operation an enema of soap-and-water was given. Liquid food was kept up until four hours before the operation, and brandy was given by the mouth after the food was stopped. Just before the operation an enema of brandy, ℥ j.; strong black coffee, ℥ j.; hot water, ℥ ij. was given.

Operation April 10, 1890, at 3 P.M., under ether. As soon as she was anæsthetized the stomach was thoroughly washed out with warm Thiersch's solution. I made a median incision six inches long, three inches above and three inches below the umbilicus. A portion of the gastro-hepatic omentum was found adherent to the parietal peritoneum; this was torn off and tied with silk ligature. There were no other adhesions, no other cancerous deposits. One hour was spent in separating the omenta from the portion of the stomach to be removed. This was done by means of a double row of silk "chain ligatures," introduced with a curved needle, each embracing only a small portion of tissue. The omentum was cut between the two lines of ligatures; several glands were noticed in the great omentum close to the greater curvature, and the line of ligatures placed beyond these and an inch or more from the colon.

An oblique circular incision was then made well beyond the cardiac border of the tumor and the bleeding vessels secured by forcipressure clamps, which were left *in situ*. As soon as the stomach was opened three flat sponges were introduced into its cavity which prevented the escape of any of its contents.

A second circular incision was made just beyond the pyloric end of the tumor. The cut ends of the stomach and duodenum were then closed, the mucous membrane being first roughly approximated by a continuous catgut suture, and the serous surfaces united by the interrupted Lembert sutures of fine silk. The commencement of the jejunum was recognized, and a loop which was distant about twelve inches drawn out of the abdominal cavity and placed in contact with the anterior wall of the stomach, just above its greater curvature and two inches to the left of the sutured extremity.

Before opening either the stomach or bowel the peritoneal coats of each were united by a line of continuous silk sutures three inches long. Two catgut rings (Abbe) were inserted into each viscus and secured in the usual way, the "slit" in the rings being one and three-fourths inch in length. A row of interrupted Lembert sutures was then applied on the anterior surface after tying the sutures attached to the rings. The abdominal incision was closed with silk sutures embracing its entire thickness, covered with iodoform and bichloride gauze, over which a rubber coil was applied. The anastomosis occupied twenty-five minutes, the entire operation three hours, the patient being under ether three and one-fourth hours. Toward its close the general condition was very bad, the pulse being very small and rapid, the respirations shallow and the extremities cold. She was freely stimulated with whiskey, hypodermatically, and kept with head low and legs elevated. After the operation the pulse was 160, the respiration 32. A large enema of hot water and whiskey was given. At 7.30 P.M., Magendie's solution, ♏ iv., after which she rested quietly all night. Just before the opium was given she vomited some bloody mucus. Digitalis and whiskey were given hypodermatically every three hours during the night, and another enema of hot water and whiskey. The morning following the operation the temperature was 99.4° F., pulse 136, and she was free from pain. Rectal stimulation only was allowed for two days. On the third day she took fluids by mouth, and on the tenth day solid food. The bowels moved spontaneously on the fourth day. The catgut rings were never seen. The ice-coil was discontinued at the end of forty-eight hours, the abdominal wound healing by first intention with the complication of one "stitch abscess," which caused fever on the seventh and eighth days. The gain in color, flesh, and strength was rapid. She sat up at the end of four weeks and left the hospital in the seventh week. The following table, compiled by the house surgeon, Dr. Schauffler, gives in detail the general condition, medication, and nourishment for the first eight days.

The removed tumor I am able to show you, through the kindness of Dr. Frank Ferguson, Pathologist to the New York Hospital, who reported on it as follows:

"The material consists of a portion of the stomach, down to and including the pylorus. It measures along the greater curvature, 13½ ctm.; along the lesser curvature, 7½ ctm. The pylorus and posterior wall near pylorus and greater curvature are involved by a new growth whose greatest thickness measures at pylorus, 3 ctm. The growth extends backward 11 ctm. from the pyloric incision. On the cardiac side the incision seems to have

Date.		Pulse.	Respiration.	Temperature.	Urine.	Defecation.	Medication.	Nourishment by rectum.	Nourishment by mouth.
April 11th, first day after operation.	A.M.	136	30	99.4	12½ oz.	.....	By hypodermic: Whiskey, ℥ 100; fl. ext. digitalis, ℥ 3; tr. strophanthus, ℥ 3; camphor, gr. ½; Magendie, ℥ 5.	Brandy, 1½ oz.; peptonized milk, 10½ oz.	
	P.M.	130	24	100.2					
April 12th...	A.M.	130	24	100.4	30 oz.	.....	By hypodermic: Whiskey, ℥ 50; fl. ext. digitalis, ℥ 3; Magendie, ℥ 5.	Brandy, 2¾ oz.; peptonized milk, 14 oz.; Johnson's fluid beef, 5 drachms; water (hot), 20½ oz.	
	P.M.	124	24	99.6					
April 13th...	A.M.	124	24	99.4	22 oz.	.....	By hypodermic: Brandy, 3 2½; fl ext. digitalis, ℥ 4; Magendie, ℥ 15.	Brandy, 4 oz.; peptonized milk, 10½ oz.; Johnson's fluid beef, 2 drachms; water, 6 oz.	Peptonized milk, and tea with a little milk, in ½-oz. doses, in all 7 oz.
	P.M.	118	24	100.8					
April 14th...	A.M.	108	20	100.2	20 oz.	Three movements, the third being formed.	By hypodermic: Magendie, ℥ 6.	.....	Consommé, chicken broth, barley water, clam broth, tea, peptonized milk, brandy, sherry, in all 44 oz.
	P.M.	100	18	100.0					
April 15th..	A.M.	80	18	99.2	20 oz.	.....	By hypodermic: Magendie, ℥ 5: brandy and sherry with food.	.....	Same articles of diet, 29 oz.
	P.M.	90	20	99.8					
April 16th...	A.M.	88	24	99.0	20 oz.	One movement.	Brandy and sherry taken with food.	.....	Same articles of diet, 25 oz.
	P.M.	96	26	98.4					
April 17th...	A.M.	84	20	99.2	24 oz.	.....	Brandy and sherry with nourishment.	.....	Same articles of diet, 36 oz.
	P.M.	88	20	100.6					
April 18th...	A.M.	84	26	99.4	42 oz.	.....	Brandy and sherry as above; antifebrin, gr. 6.	.....	Same articles of diet, 37 oz.
	P.M.	100	28	102.8					

gone several centimetres beyond the limits of the growth. The incision at the pylorus is through substance of tumor.[1] The pylorus admits tightly a cylinder 1½ ctm. in diameter. There is apparently no ulceration of growth. There are several small nodules in omentum along the line of incision.

"Microscopical examination of the small masses in omentum along the line of incision show a filiform stroma arranged into alveoli, and these alveoli are lined with epithelium. The growth in these masses, assumed to be glands, show in places an irregular appearance.

"Sections through the new growth in the stomach-wall near the pylorus show large masses of epithelium within alveoli, which vary greatly in size, some of them the size ordinarily found in carcinoma of the mamma and some of them eight or ten times that size; some areas of the new growth show a degeneration of the epithelial cells and their replacement by fibrous tissue. The muscular wall of the stomach in the line of section shows enormous thickening, including large masses of epithelium supported by a delicate fibrous stroma, some of these giving the appearance of a racemose gland. In the line of section the mucosa of the stomach is intact and greatly thickened, with its stroma infiltrated by small round cells. Many gastric tubules are atrophied and in many places the cancer masses are directly continuous with the bottoms of the tubules."

Shortly after leaving hospital this patient sailed for Ireland, where she now resides. In a letter dated November 1st (seven months after operation) she writes that she has continued to gain flesh, and is strong and well in every respect.

Case II. *Carcinoma of the Stomach; Pylorectomy and Gastro-Enterostomy; Death; Faulty Suture of Duodenum.*—J. H——, aged sixty-three, married. Had had since childhood more or less gastric trouble with marked increase in symptoms during the past year. She has suffered considerable loss of flesh and strength of late and has had frequent vomiting of food, but the bowels are not constipated and the epigastric pain not severe. Dr. Hilger, of Fort Lee, advised her to enter the New York Hospital and she was admitted August 18, 1890. Examination showed a tumor two by three inches in area just to the left of umbilicus. It was hard, not tender, irregular in outline, and freely movable. There was moderate dilatation of the stomach. Chest was found normal, the general condition good, and urine contained nothing abnormal.

The operation was performed under ether August 20, 1890, in the same manner as in the previous case. The tumor, a little smaller than the other, embraced the pylorus and greater curvature. The duodenum was on the stretch when section was made on that side of the pylorus, and when the sutures were being applied I found that the posterior wall was only in part covered with peritoneum. Its cut mucous coat was sutured with continuous catgut suture and over this several layers of Lembert sutures were applied. I realized the weakness of this step and spent half an hour in trying to make the lines of suture secure. The stomach-wound and the gastro-enterostomy were treated as in the first case. There were several enlarged glands in the omentum. The operation lasted two hours and the patient was in excellent condition at its close. For the first forty-eight hours the progress was satisfactory, then vomiting of a greenish mucus occurred, with rapid pulse and slight elevation of temperature. On the fourth day a copious discharge of yellowish watery mucus took place from the abdominal wound and this continued until death occurred on the seventh day. Only a partial autopsy was possible, but it demonstrated that the suture of the duodenum had been imperfect and permitted the discharge of this part of the intestine through the abdominal wound. The same contents had undoubtedly found their way into the stomach through the anastomotic opening and been vomited in the course of the peritonitis set up by that infection of the peritoneal cavity. The sutures of the stomach and anastomosis wound were found perfect and "water-tight." One catgut ring had disappeared, the other was found lying loose in the lumen of the anastomotic opening. The following is the pathological report in full:

"The material is the pylorus and a portion of the stomach-wall, including the first half inch of the duodenum. It measures along the greater curvature 11½ ctm., along the lesser curvature 7 ctm. Its greatest circumference is 15 ctm. There is an ulcer around the pyloric ring involving the entire circumference of the mucosa and extending upward a distance of 3 ctm. The ulcer is ½ ctm. deep.

"The greatest thickness of stomach-wall is just above the pylorus on greater curvature and is 2 ctm. in this location. The stomach-wall is infiltrated with a new formation (tumor) which extends from the ulcer above described outward to the peritoneum. The pylorus admits and grasps tightly a cylinder ½ ctm. in diameter. The mucous membrane is greatly thickened and corrugated. The line of incision is everywhere beyond tumor tissue.

"Accompanying this portion of the stomach are numerous small masses of fat, including several small glands of the same color and consistency as the tumor itself.

"Microscopically the tumor is found to be a carcinoma of the scirrhous variety the stroma being abundant and composed in part of the smooth muscular tissue of the

[1] The specimen, after removal, was handed for inspection by a number of spectators, and reached the pathologist several hours later. Its pyloric extremity was then found missing. My assistants and myself are confident that the incision was made through the healthy duodenal junction. In fact, had this not been the case, the suture as described would have been impossible.

wall of the stomach. Some of the alveoli are lined with epithelium, the cells of which are small and irregular in outline, but most of the alveoli are filled in the ordinary way.

"In places the tubules are seen to be continuous at their bottom with the carcinomatous alveoli, and in one or two instances the epithelium lining the tube seems to be directly continuous with the epithelium lining the alveoli. Nearly the entire stomach wall is invaded there remaining only a small strip beneath the peritoneum, and here in the planes of the fibrous tissue small round cells of inflammation are found. The accompanying glands are the site of beginning cancer."

The error was made in this instance of dividing the duodenum too far away from the pyloric edge of the tumor. Even in the alcoholic specimen there is to be recognized half an inch of healthy duodenal wall. All of this might properly have been left intact and been available for an efficient row of peritoneal (Lembert) sutures over the united mucous membrane.

In Case III. the suturing was, I believe, perfect, but the mortifying accident of leaving a sponge in the stomach itself led to a rupture of the line of union and peritonitis, which brought about a fatal result in fifteen hours. The patient, aged sixty-three, wife of a janitor, had been under treatment by Dr. Kletzsch of this city, who first recognized an epigastric tumor. For six months she had suffered burning pain in the epigastrium after eating, with occasional vomiting of contents of stomach and green and coffee-colored material. She was constipated unless cathartics were used, had lost flesh rapidly and become cachectic. The heart and lungs were normal and the urine presented nothing abnormal. The tumor, situated just above the umbilicus, felt on palpation to be hard, irregular in outline, movable about an inch in all directions, and two and one-half inches by four inches in area. The stomach was dilated, its lower border reaching below the line of the navel, and forty ounces of contents were removed at the first introduction of the stomach-tube. In the region of the gall-bladder a hard, small tumor was felt, which was supposed to be a cancerous deposit in the omentum. The inguinal glands were enlarged but not hard. After a few days of preparatory treatment, daily washing out of the stomach, liquid diet, and rectal injections, the operation was performed under ether, October 7, 1890, with the aid of Dr. Kletzsch, in the same manner as the other two. There was a chain of enlarged glands in the greater omentum and, what was surprising, the hard tumor in the region of the gall-bladder was that viscus itself, filled with two or three large calculi. These were not disturbed. The usual precautions were taken to prevent leaving any sponges behind. Before closing the stomach I introduced the finger three or four inches into its cavity and the "count" was declared to be correct.

The operation lasted two hours and left the patient in excellent condition, but in the course of the next ten hours there was collapse, and death with signs of commencing peritonitis took place at the end of fifteen hours. The autopsy disclosed the following important details, for which I am indebted to Dr. G. C. Freeborn, who has kindly prepared the specimen I show you:

"Abdominal cavity contains a large quantity of yellowish-green fluid. This fluid is found escaping from a wound in the greater curvature of the stomach. The omentum is found rolled up into a mass just below the stomach; it is congested and covered with fresh exudate. Liver normal in size, pale in color, but no lesions were found. The gall-bladder is enlarged, projects three-quarters of an inch beyond the free edge of the liver, and contains one large calculus and several small ones. Spleen small and pale Stomach: The pyloric end is found to have been resected, the wound is closed by sutures, the posterior two or three sutures have torn out permitting the contents of the organ to escape into the abdominal cavity. A mass is felt in the right end of the stomach, which on opening the organ proves to be a sponge. Its end rests against the situation of the torn sutures. Kidneys small, pale in color, and show gross lesions of parenchymatous degeneration. Small intestines congested and peritoneal surface covered with fresh exudate. Large intestines: Upper portion congested and covered with fresh exudate.

"The resected pylorus forms a tumor of irregular pyramidal shape, 9 ctm. long, 4 ctm. wide at its pyloric and 5 ctm. wide at its gastric extremity. On longitudinal section the walls of the stomach are much thickened, varying from 9 to 12 ctm. The bulk of this increased thickness appears to be in the mucous membrane. Microscopically the tumor is an alveolar carcinoma, the new growth extending through the entire length of the tumor and being confined to the mucous membrane. At each extremity of the tumor there is normal tissue."

The sutures were tight except those mentioned, and the catgut rings were still in place. A thin exudation concealed the silk sutures which were applied outside the catgut plates. The sponge found was a nearly round one, half the size of a base-ball.

It had been concealed in the cardiac extremity of the stomach and had escaped detection when the finger was introduced. Evidently it had been forced by the peristalsis to the region of the sutured pyloric end, and made pressure enough to tear one of the sutures.

In these operations I have departed from the typical methods in only a few details, which are, however, worthy of mention. In the preparatory treatment I have employed the stomach-pump while the patient was under ether in preference to several washings before the anæsthetic was given. This causes some prolongation of the narcosis but avoids the mental disturbance and physical annoyance inseparable from the other procedure; I should prefer the latter when patients were habituated to the tube, but I believe that the pump empties the organ more thoroughly.

The median incision has proved satisfactory and is for obvious reasons much to be preferred to any other. I have used no clamps for stomach or duodenum to prevent escape of contents; the fingers of an assistant are more satisfactory, especially if, by the aid of hooks or loops of silk the divided ends of the viscera be kept elevated in a vertical position. A plug of iodoform gauze will stop up the duodenal opening, and the flat sponges in the stomach have kept that cavity quite dry. There has been but trifling bleeding from the stomach or intestinal wall, and that which follows the incision for the anastomotic opening will be controlled effectually when the catgut rings are approximated. The loop of jejunum I have shut off with strips of iodoform gauze, while the anostomosis was being made. The continuous catgut suture through the mucous membrane, reinforced by interrupted Lembert sutures, seems to close satisfactorily the cut ends of the stomach and duodenum, but in using the rings I have always added to the silk ligatures which hold them in apposition a line of continuous silk suture, reinforced here and there by isolated sutures. I look upon the rings, *not* as an absolutely sure method of uniting the serous surfaces of the viscera, but as a most convenient adjunct to a carefully applied peritoneal suture, and in the two last cases I sutured at six points the mucous membrane, both of the stomach and jejunum, to the peritoneal coat, in order to prevent any contraction of the orifice, an event concerning the occurrence of which we know very little as yet. In all three cases the gastro-enterostomy has been perfect in point of accurate and secure apposition.

I hope these experiences may prove of use to others who may attempt these operations, and that the somewhat tedious details may help to better success than I have had thus far. I have already referred to the probability of better results in the future from adopting the newer procedures, and will close by calling your attention to some pathological data which have a bearing on the prog-

nosis of operated cases. If we consider the statistics[1] compiled by Habershon, Brunton, Gussenbaun, and v. Winiwarter, we shall find 1,342 cases of cancer of the stomach, as seen at autopsy, of which 802, or over one-half, involved the pylorus alone. The cases of Gussenbauer demonstrated that about one-half of those at the pylorus were uncomplicated by involvement of glands or adjoining viscera, or by serious adhesions.

We may say then, roughly, that one-half of the cases of pyloric cancer presented on autopsy conditions favorable for operation. Streit,[2] at the Berne Klinik, found of fifty-four cases, between the years 1876 and 1886, twenty-five per cent. presenting similar conditions. The percentage would naturally be greatly increased at an earlier period in the disease.

It is just to believe that in cancer of the stomach we have to deal with a neoplasm of slow growth, with slow tendency to infiltrate the neighboring parts, which often causes death by mechanical obstruction before its victim is overtaken by general exhaustion. Is it not our duty to discover and attempt to cure such a condition at a much earlier period of its growth? The physician by the frequent chemical examination of the stomach contents, the hydrochloric acid test, together with careful and frequent abdominal palpation, will help to this early diagnosis, while the surgeon may, by means of exploratory laparotomy, safely determine the nature, seat, extent, and complications in doubtful cases. With these aids, which at present are too often long delayed or quite neglected, we shall have in the future a far better opportunity of dealing with this fatal disease; and pylorectomy, or some of its modifications with their improved technique, will be raised from its present position of doubt and uncertainty to that of a life-saving and life-prolonging operation.

CEREBRO-SPINAL MENINGITIS IN AN INFANT DUE TO THE DIPLOCOCCUS PNEUMONIÆ OF FRAENKEL AND WEICHSELBAUM.[3]

By L. EMMETT HOLT, M.D.,
AND
T. MITCHELL PRUDDEN, M.D.,
NEW YORK.

Similar cases to the following one have already been reported in German medical literature, but this is believed to be the first one recorded in this country.

Clinical History (Dr. Holt).—The patient was a female child, thirteen months old, an inmate of the New York Infant Asylum. She was, previous to the illness here recorded, in excellent condition and nursed by the mother; there had been a slight cough but no other symptoms prior to October 8th. While standing in her crib on the afternoon of this date, the side became detached and the child fell to the floor a distance of about two feet, striking upon the chest and forehead. She cried considerably but in two hours was bright and in all respects natural. There was an attack of vomiting during the night, but she slept quietly and the next morning seemed perfectly well, excepting that ecchymosis existed beneath the left eye. Nothing abnormal was observed during this day until toward evening, when she became very fretful and feverish and at eight o'clock she was taken with severe vomiting which was repeated at short intervals during the night. The temperature rose rapidly to 103° F., and from this time remained steadily high. Slight convulsive movements of the face were observed once during the night.

From the onset of severe symptoms and vomiting the illness lasted just eighty hours. Vomiting persisted during the whole attack; the bowels moved regularly once or twice daily. The temperature remained steadily high, from 102.5° to 105.5° F.; pulse rapid, but regular; respirations 48 to 54 per minute. The prostration was very marked and steadily increased. General cyanosis was quite prominent throughout the illness; this, with the rapid breathing and persistent high temperature, led to the suspicion of pneumonia, but repeated examinations of the chest revealed only very rude respiration on both lungs, no râles and no signs of consolidation.

There was, for the first two days, general nervous irritability, but no delirium. During the last eighteen hours only were there any decided nervous symptoms. Drowsiness was first observed, this gradually merging into stupor; with this there was a slight amount of rigidity in the lower extremities, and a little later convulsive twitchings were seen in the right face and arm. The stupor steadily increased and she died comatose. There was at no time opisthotonos, retraction of the abdomen, pupillary disturbances, or constipation. The prominent symptoms were persistent high temperature, vomiting, prostration, and cyanosis, with the nervous symptoms above noted during the last eighteen hours.

Autopsy, seven hours after death. Body well nourished. Large ecchymosis beneath left eye, but bone and dura mater normal in the corresponding region; no subdural hemorrhage; non-adherent thrombi in the superior longitudinal and lateral sinuses, thrombi in many of the cortical veins leaning to these sinuses. There was a very abundant exudation of lymph and pus which enveloped completely the anterior half of the brain; posteriorly it was seen in scattered patches. Exudation rather less abundant at the base than over the convexity. Lateral ventricles not distended with fluid. The spinal canal was lined by a thick layer of fibrin and pus, chiefly posteriorly, the exudation being rather more abundant above than below. The dura externally was covered with this exudate upon its posterior and lateral surfaces, but none was present in front. The inner surface of the dura and the pia mater were congested, but otherwise normal. No tubercles in brain or cord. The lungs were uniformly congested, but there were no areas of consolidation or collapse. Pleura normal. The heart contained adherent decolorized thrombi, which extended into the pulmonary artery and the aorta. Pericardium normal. Spleen slightly enlarged, otherwise normal. Liver normal. Kidneys showed moderate cloudy swelling of cortices. Alimentary tract normal.

Bacteriological and Microscopical Study of the Brain and the Lungs (Dr. Prudden).—Cultures were made five hours after the autopsy from both the brain and the lungs, on plates of agar and glycerine-agar, and kept in the thermostat at the body-temperature. On the plates made from the exudate of the pia only one variety grew, and that in large numbers. This growth on the agar plates was in the form of grayish, inconspicuous, translucent small colonies, which very soon died out and could be no longer transplanted with success.

Transfers made to tubes in from twenty-four to thirty-six hours showed the same growth on agar. There was no growth on gelatine at the room-temperature, and no growth on potatoes.

Morphologically these germs were very short, often lance-head shaped, and mostly in pairs, presenting, however, considerable variation in shape, the diplococcus form predominating.

Inoculations were made either subcutaneously or into the pleura in white mice (two animals), and death ensued in about thirty six hours. The post-mortem examination showed a moderate fibrinous exudate of the pleuræ, congestion of the posterior lobes of the lungs, and a large, soft spleen. The blood from the heart and the exudates showed large numbers of short-paired bacilli with translucent capsules.[1]

A replanting of the exudates and blood from the heart gave a new set of pure cultures similar to those made from the brain of the child. Cultures from the child's

[1] McArdle: Dublin Journal of Medical Science, vol. 83, 511
[2] Loc. cit.
[3] Presented to the New York Pathological Society October 22, 1890.

[1] These were shown to the Society.

lungs showed the prevailing bacterium to be the same as that which was so abundant in the cerebral exudate.

The morphological, biological, and pathogenetic characters of this germ, then, suffice for its identification as the diplococcus pneumoniæ of Fraenkel and Weichselbaum.

Sections of the inflamed pia, stained for bacteria, show that in places the exudate, pushing apart the layers and fibres of the pia, is crowded with the pneumococcus. The lung shows, in addition to its congestion, a very slight amount of exudation here and there into the air-vesicles, and a moderate degree of inflammation of some of the smaller bronchi.

Remarks.—It seems to be pretty well established by the researches of the past few years that the pneumococcus of Fraenkel and Weichselbaum is the bacterial etiological factor in the infectious disease, acute lobar pneumonia. But these same researches have shown that the diplococcus pneumoniæ has another and a very significant rôle among the pathogenic bacteria. It has been repeatedly found either alone or in association with other germs in several of the not infrequent complicating lesions of acute lobar pneumonia, such as suppurative meningitis, endocarditis, etc. It has been also shown that, apart from pneumonia, this germ is capable of setting up suppurative inflammations in various parts of the body, as in the middle ear, joints, etc. The case is an excellent example of this particular lesion of the brain and cord which has already been shown in a considerable number of cases to be associated with the pneumococcus.

Two points are worthy of notice in connection with the clinical history. The first is the early predominance of pulmonary symptoms, rapid breathing, cyanosis, etc., and those of a cerebral character. This appears to show that the effects of the infection were felt to a considerable degree in the lungs, even though the principal lesions were in the central nervous system. This seems not unnatural, since the diplococcus is more frequently the cause of pneumonia than of other inflammations.

The second point is the rôle played by the traumatism. This was definite and quite severe and occurred just twenty-four hours before the onset of active symptoms. Was it simply a coincidence? It seems more likely that this may have been the factor which determined the brain, rather than any of the other organs, as the seat of disease.

No other cases of cerebro spinal meningitis had been seen in the institution for a year, and no cases of pneumonia have occurred this season in the building which this infant occupied.

A CONSIDERATION OF PROFESSOR KOCH'S METHOD OF TREATING PULMONARY TUBERCULOSIS.

Some of the Complications Apt to Arise—Some of the Dangers to be Apprehended.

By JOSEPH WILLIAM STICKLER, M.D.,

ORANGE, N. J.

In preparing this article for publication it seemed to me wise to endeavor to reproduce as clearly as possible my experience in the Berlin hospitals while studying the effect of Koch's "lymph" upon patients suffering from pulmonary tuberculosis. I have therefore selected three instructive cases which I have reported, *in extenso*, giving all the daily happenings, hoping and believing that those who read them will learn more about this new method than if a great variety of opinions were quoted. Each man must and will form his own opinions, but to do so he must have all the facts, so far as he can procure them, in relation to cases treated. And let me say here that the profession on this side of the Atlantic should not at once adopt this new treatment of tuberculosis and lupus without using the utmost caution, for it is not without its dangers, I may say very great dangers, neither has it yet been shown to be a cure for tuberculosis of the lungs. That many patients seem to be better there is no doubt. Let us trust that ultimately they may be cured. That some patients are worse than before they were treated is equally true. That others have died while being treated is just as true.

In an interview with Professor Virchow, he told me that several patients had been killed by the lymph, for which reason, and also because dangerous complications sometimes arise, he urged very great caution in the use of the remedy, suggesting that small doses be frequently employed rather than large ones at short intervals, as has been done, especially in lupus. There are physicians who think that almost any case of incipient phthisis may with perfect safety be injected with Koch's lymph. Experience in Berlin leads me to say, examine such a patient *very* carefully, not only his or her lungs, but the larynx as well, for if there be any tubercular disease in the latter organ the lymph will find it, and may cause such an infiltration and œdema of the soft tissues as to necessitate tracheotomy. Then, again, should there be any tubercular tissue in the lungs, not discovered prior to injection, it would be promptly influenced by the lymph and thus the patient be made worse, at least for a time. By being made worse, I mean that there would be dyspnœa, a pulse of 120 or perhaps 160, a temperature of 102° to 104° F., and great prostration, possibly a comatose condition, as in a case I saw in the Charité Hospital in Berlin. On the other hand, the lymph should be used, and cautiously, upon a great variety of tubercular affections and results carefully and accurately recorded. At the present time these trials should be made, with but few exceptions, in hospitals or institutions where medical attendance is constant, and where dangerous complications may receive prompt attention.

That Professor Koch has given us a remedy of great power, and one whose selective action is upon tubercular tissue, whether external or internal, there is no doubt, and we honor and praise him for his wonderful discovery; but let us by a careful consideration of the facts thus far supplied, and by a searching and exhaustive trial of the lymph in other cases, get at the whole truth, so far as we may, in relation to this interesting matter. All spirit of prejudice and preconceived notions should not find a place in our mind while thus seeking for the truth. Let us, then, follow carefully the records of the cases given in this article, together with the charts, and then, adding what information may thus be gained to what has been or will be gained from other sources, opinions may be formulated and conclusions arrived at.

Case I.—Female, aged twenty-one. Father died of phthisis, also brother when he was twenty-six years of age. She had measles and scarlatina when young. Menses appeared when twelve years of age; they were irregular. Has had no children. About four months ago had cough and pain in chest. Pain most intense in right shoulder. For six months has been hoarse, at times aphonic. Expectoration is purulent. At first but small amount in morning. During the last few weeks has had night-sweats. There has been no hæmoptysis. Appetite poor—has lost but little in weight. As a young child had some glands extirpated. Has had a syphilitic exanthema, but no sign of syphilis on November 22d, the date of admission into the hospital. Her thorax is normal in shape, and the intercostal spaces show no changes. There is consolidation of the right apex. Moist râles may also be heard on right side. The sputum is globular and very hard. There is a soft systolic anæmic murmur. The larynx is normal—the vocal cords are slightly uneven.

On November 25th there was no rise of temperature. There were many tubercle bacilli in the sputum.

On November 26th, 10.45 A.M., she received under the skin of the back 2 milligr. of Koch's lymph. At 6 P.M. the temperature was 38.7° C., but fell to 37.2° C. by 9 P.M. The next morning at three o'clock the temperature

was 38.4° C.; in the afternoon at three o'clock it was 37.2° C., and in the evening at nine it was 38.1° C.

On November 27th two characteristic symmetrical ulcerations appeared on the vocal cords.

November 28th. 6 A.M., temperature was 36.2° C. At 9.30 A.M. 5 milligr. of lymph were injected. At 6 P.M temperature was 37.9° C.

November 30th. 10.15 A.M., 10 milligr. of lymph given. Temperature at 9 P.M., 39.8° C.

December 1st. A.M., temperature, 38.1° C.; 9 P.M., 36.3° C.

December 2d. 9.45 A.M, injected 10 milligr. of lymph. Temperature, 6 P.M., 38.9° C., at which point it remained till 9 P.M., when it began to descend, reaching at twelve o'clock 37.4° C.

December 3d. 6 P.M., temperature, 38.3° C.

December 4th. 12.30 A.M., 12 milligr. of lymph injected. Temperature at 6 P.M., 39.7° C.

December 5th. 12 P.M., temperature, 36° C.

December 6th. 9.30 A.M., injected 12 milligr. of lymph. Temperature, 9 P.M., 38.4° C. At six o'clock next morning temperature 38.5° C.; at twelve o'clock, 38.8° C.

December 8th. 6 A.M., temperature, 36.2° C. At 11 A.M. gave under the skin 15 milligr. of lymph. 9 P.M., temperature, 38.5° C. The temperature then slowly receded till on December 10th, 9 A.M., it stood at 36° C.

December 10th the ulcers on the vocal cords were entirely healed. At 9.30 A.M. of this date (10th) 15 milligr. of lymph were injected. Temperature at 12 P.M., 38.1° C. It descended slowly till on December 13th it was 35° C.

December 13th. 10.30 A.M., injected 15 milligr. of lymph. The evening temperature was 39.1° C. The temperature, December 15th, was 35.6° C. During all this time the pulse occasionally went up to 120.

December 16th. 11.30 A.M., injected 15 milligr. lymph. Reaction very slight, 38.1° C.

December 18th. 10.45 A.M., injected 18 milligr. lymph. No reaction. On December 8th and 13th, during the reaction, the respirations were 58. On November 28th she weighed 95 kilo.; on December 3d, 93 kilo.; December 7th, 92 kilo.; December 10th, 93 kilo.; December 15th, 94 kilo. She is gaining in weight. Since the injections were begun there has developed at the base of the right lung a lobular pneumonia. It developed on December 11th. This condition is supposed to be produced by the inoculations. She expectorates but little.

Case II.—Charles K——, aged twenty-four, painter. Mother died of tubercular phthisis. Father had phthisis. One brother is living and well. As a child he had enteric fever, measles, and scarlatina. Since that time has been well till the development of his present disease. His present illness began in September, 1890, with cough and moderate expectoration. At the end of September he had a hæmoptysis—one-half teacupful. During that month he also had night-sweats with an afternoon chill.

At the time he entered the hospital, October 30, 1890, he had cough, pain in chest on deep inspiration, and a feeling of weakness. Present condition, strongly built man. Skin dry and pigmented. No infiltration of glands. Face flushed. Pulse regular, 72 per minute. Appetite good; tongue coated. Liver and spleen normal. Thorax well arched; the supra- and infra-clavicular regions rather deep; percussion-note shorter at left apex, at supra- and infra clavicular spaces than on the right side; dull also posteriorly at left apex; auscultation shows bronchial expiration anteriorly over left apex; many moist râles on expiration; posteriorly over left lower lobe there is evident pleuritic friction from seventh vertebra downward, accompanied with very weak respiratory sounds. Vocal fremitus also somewhat weakened. Heart normal; vital capacity 2,000 c.c. On November 6th a small ulcer of the left arytenoid body was noticed. November 10th, dulness still persists at left apex. In left fossa supraspinatus bronchial breathing and occasional consonant râles. The affection of the left lower lobe shows signs of improvement. Tubercle bacilli quite numerous in the sputum. From October 31st to November 18th his temperature was always normal. His weight on November 18th was one hundred and twenty-six pounds. The condition of the lung the same as on November 10th.

November 18th. 8 A.M., he received of Koch's lymph 0.002 gm. Temperature gradually rose till 5 P.M., when it reached 38° C.; at 6.30 P.M., temperature, 39° C.; 8 30 P.M., 39.5° C.; 9.30 P.M., 39° C.; 10 P.M., 38.3° C. It then gradually fell during the next twenty-four hours till it reached, on the morning of the 20th, 36.4° C. The first subjective signs of the reaction following the injection of 0.002 gm., November 18th, were observed at twelve o'clock, four hours after treatment. First noticed flushing of the face, which condition was accompanied with a feeling of feverishness. At five o'clock same day patient complained of pain in left tibia, and an exanthem (like measles) associated with itching appeared upon the face. At seven o'clock there was a profuse perspiration, the pulse became dichrotic, the conjunctivæ congested, and the exanthem more pronounced. At eight o'clock he complained of lancinating pain in left apex.

On November 20th he felt well and his vital capacity was 1,800 c.c. On this date he received 0.003 gm. of lymph and showed no reaction of temperature. Had a slight constitutional disturbance, cough was increased, the exanthem in the evening quite prominent, and the sputum 40 c.c. in quantity.

On November 21st the right arytenoid body shows a grayish-white discoloration.

November 22d. Injected 0.005 gm. of lymph. There followed no particular reaction of temperature, pulse, or respiration. The tubercle bacilli showed no morphological changes but they were not present in great numbers. He complains of pain in the neck and oppression of chest.

November 24th. Received 0.008 gm. of lymph at 10 A.M.; at 7 P.M., temperature, 38.5° C. There was slight constitutional disturbance. The right arytenoid body shows slight ulceration. Both vocal cords are injected. Sputum, 60 c.c.

November 26th. 10 A.M., gave 0.010 gm. of lymph. There was scarcely any reaction of temperature. The sputum now changed from its former numulated and purulent character into a frothy and muco-purulent condition. Quantity, 30 c.c., just one-half the quantity recorded on November 24th.

November 27th. The exanthem on the face very evident in the morning. The ulceration on the right arytenoid body still present. The injection of the vocal cords not so well marked. Quantity of sputum, 10 c.c.

November 28th. Injected 0.015 gm. of lymph. There was a slight reaction of temperature. Temperature after injection, 38.2° C. At this time only one bacillus could be found on two slides. Lung changes: Dulness at left apex still present; bronchial breathing confined to the upper portion of left supra-spinous space. A few mucous râles, especially in the fossa infra-clavicularis of left side.

December 2d. 10 A.M., injected 0.025 gm. of lymph. There followed a slight reaction of temperature, 38.1° C. Pulse and respirations unchanged; the catarrhal condition of the larynx greatly improved; the ulceration of the left arytenoid body not as evident as before.

December 3d. The anterior pillars of the fauces very red, and show a number of whitish patches, probably herpetic.

December 4th. 10 A.M., gave 0.030 gm. of lymph. Temperature in the evening, 38.3° C.; sputum, 20 c.c. General disturbance very slight. Weight 131 pounds; weight November 18th, 126 pounds, a gain of 5 pounds.

December 5th. Sputum, 80 c.c., twice as much as on November 28th.

December 6th. 10 A.M., gave 0.040 gm. of lymph.

Temperature, 6 P.M., 38.5° C.; sputum, 40 c.c.; constitutional disturbance slight. No tubercle bacilli to be found in four specimens.

December 8th. 10 A.M., injected 0.050 gm. of lymph. Temperature. 6 P.M., 38.4° C.; sputum, 20 c.c. It will be noticed that the quantity of sputum varies, sometimes more, sometimes less.

December 10th. 10 A.M., injected 0.060 gm. of lymph. Temperature, 6 P.M., 38.8° C.; sputum, 20 c.c. New appearance of exanthem on face. The laryngeal ulceration which had healed became visible again. No tubercle bacilli present in one specimen. Vital capacity, 1,950 c.c.

December 11th. Only day when the temperature was 38.1° C. without injection.

December 12th. Injected 0.070 gm. of lymph. A typical reaction followed, 39.4° C. Had a night-sweat. Dulness at left apex still evident. Bronchial breathing no longer detected; only occasional râles; sputum, 20 c.c.; severe headache.

December 14th. Injected 0.070 gm. of lymph. Temperature, 6 P.M., 38.4° C. General disturbance slight.

December 16th. 10 A.M., injected 0.080 gm. of lymph. Temperature, 6 P.M., 38.9° C.

Since December 15th only 10 c.c. sputum daily. At present catarrhal condition of apex greatly reduced. Only at one spot is there slight bronchial breathing on expiration. No more night-sweats. Weight, 132 pounds. No bacilli found in several specimens.

CASE III.—Caroline M——, aged twenty-eight, housewife. Comes from tuberculous family; mother died at forty-two of tubercular pleurisy; father living and well; one brother has phthisis, one brother and sister well; menses began at fifteen, and were irregular till nineteen; pregnant since July 1, 1890; has had five children, two living; one died three and one-half days after birth; had two abortions, one at third, and one at sixth month. One year ago present disease began. There was much cough, with small amount of frothy mucoid expectoration; lancinating pain in right shoulder below the clavicle. Once weighed one hundred and twenty-six pounds; has lost much in weight during the last year; has no night-sweats. Condition on December 2d: Complains of great weakness; has considerable expectoration; sleeps but little; vomits, and has pain in her back. She is a small woman with a weak muscular system; skin dry and non-elastic; she has no exanthem or anasarca; the anterior pillars of the fauces are redder than normal; pharynx normal, no glandular swellings. Condition of lungs: Percussion at both apices normal; posteriorly over left scapular spine, slight dulness; there is also some dulness on right side in same region. Above the left spine (scapular) there is harsh vesicular breathing, and prolonged and blowing expiration with large and small râles. Over the right scapular spine there is rather harsh inspiration, and a blowing expiration, no râles; over the rest of the lung there is vesicular breathing. Over the left clavicle occasional râles, also under the clavicle down to the third rib râles may be heard. She coughs a great deal and expectorates a large quantity of purulent and nummulated sputum containing many bacilli. Heart normal, second sound accentuated. Pulse 100 to 110. Epiglottis relaxed.

December 3d. 10 A.M., injected 0.002 gm. of lymph. Cough increased, also headache and weakness. Expectoration slightly increased. Temperature reached only 38° C. Dulness of left apex became more evident; vesicular breathing very harsh; vocal cords normal.

December 4th. Temperature normal. Patient feels comparatively well. Less expectoration and no night-sweats. Sleeps well and appetite good.

December 3d. Weight, 42 kilo.

December 5th. 10 A.M., injected 0.005 gm. of lymph. Temperature rises from 36.1° C. to 37.4° C. at 6 P.M. Pulse rises from 95 to 120. No laryngeal changes.

December 6th and 7th. No complaints, except moderate nausea. Cough and expectoration decreased. Moderate diarrhœa.

December 8th. 11 A.M., injected 0.007 gm. of lymph. No reaction. Very little expectoration and cough.

December 9th. Patient has no complaints.

December 10th. 11.15 A.M., injected 0.008 gm. of lymph. No reaction. No complaints. Tubercle bacilli in two specimens, in small numbers. But little expectoration.

December 12th. Injected 0.010 gm. of lymph. No reaction. Slight diarrhœa. Expectoration has entirely ceased. Has a slight cough in early morning.

December 15th. Injected 0.015 gm. of lymph. No reaction. Not much cough. No expectoration.

December 17th. Injected 0.020 gm. of lymph. No reaction. No night-sweats. A little cough toward morning. Weight has increased to 43.5 kilo., a gain of three pounds.

Remarks upon these Three Cases in the Order in which they are Reported.—Case I. The patient, a young woman, had a very bad family history, father and brother having died of tubercular phthisis, hence the inherent tendency to a fatal issue in the case under consideration is pronounced. She had syphilis, and was of a scrofulous diathesis. She had consolidation of the right apex and indications of involvement of a portion of the lung below the apex. There were many bacilli in her sputum. Characteristic tubercular ulcerations unexpectedly appeared upon the vocal cords on the day following the first injection of lymph. No typical reaction obtained till 0.010 gm. of lymph were given (subcutaneously). The rise and fall of temperature following the injection of the lymph was comparatively gradual. The ulcerations on the vocal cords healed in thirteen days. Large doses of the lymph increased the action of the heart to one hundred and twenty beats per minute. Her expectoration is reduced in quantity. While she seems to be improved in some respects, she really has more disease to combat and recover from than before she had the inoculations. The lobular pneumonia at the base of the right lung is pronounced, and did not exist prior to the use of the lymph. Taking everything into consideration, the opinion prevails that she will ultimately die.

Case II. Family history very bad in this case, both parents having died of phthisis. He had quite a free hæmoptysis and his disease made quite rapid progress. He had tubercular ulceration of his larynx as a complication. Tubercle bacilli were quite numerous in his sputum. His weight on the day of his first inoculation, November 18th, was 126 pounds, on December 16th 132 pounds, a gain of 6 pounds. In September he had night-sweats, afternoon chill, cough, expectoration, pain in his chest, and a feeling of weakness. On December 16th he complained of no night-sweats, no afternoon chill; the expectoration was greatly reduced in quantity, and he feels stronger. On October 30th he had dulness over left apex and bronchial breathing, also râles. On December 12th dulness at left apex still present, but bronchial breathing no longer detected. However, on December 15th bronchial breathing is again detected on expiration. Tubercle bacilli were found in his sputum on November 10th; none were found in several specimens on December 15th. The introduction of Koch's lymph caused an increase of cough, expectoration, fever, an exanthem, pain in left apex, profuse perspiration, and a dichrotic pulse. These conditions, however, disappeared in due time.

Congestion of the vocal cords was one effect of the treatment. A herpetic eruption upon the anterior pillars of the fauces was also produced. This man when questioned as to his general condition said, "I feel weak, no appetite; I feel no better." He certainly appeared to be in good condition. His face had a good color, his eyes had a natural brightness, and he was actively engaged in the ward.

Case III. This patient has a tubercular family history, her mother having died at a comparatively early age

(forty-two) of phthisis. The only case of pregnancy thus far inoculated (that I know of).

The use of the lymph has not in any respect interfered with the normal progress of pregnancy. At one time prior to treatment she coughed a great deal, and expectorated a large quantity of sputum containing many bacilli. On December 15th, but little cough, and no expectoration. The injections increased the cough and expectoration. It also increased the dulness at the left apex. In this case no laryngeal changes occurred. Her condition really seems to be improved both locally and generally. It must not be forgotten, however, that pregnancy oftentimes produces a favorable influence upon phthisis.

Complications Apt to Arise in the Course of Treatment, and Some Facts to be Remembered in Connection with the Use of Koch's Lymph.—Children are apt to have diarrhœa. Vomiting sometimes occurs in adults, more likely to occur in the young. These conditions usually disappear in a few days. They are probably due to the septic effect of the lymph. An exanthematous rash, sometimes like scarlatina, sometimes like measles, occurs not infrequently. It always is of temporary duration. Albuminuria occasionally develops after the use of the lymph. It has not been excessive as yet. Herpes labialis sometimes accompanies the use of the remedy. Children are liable to rigors. All persons do not react to the lymph in the same manner, although they may be suffering from the same form of tuberculosis, and in persons suffering from laryngeal and pulmonary tuberculosis the reaction presents very different features. The soft tissues of the larynx are apt to be quickly infiltrated or œdematous, so that tracheotomy may have to be performed. Casts have never yet been found in the urine after injection; there has never been suppression of urine; the specific gravity is the same as in ordinary fever. The bowels are sometimes constipated; usually regular in adults. Hæmatemesis has never occurred, but hæmoptysis has in progressive cases, after the third or fourth injection. Headache is toxic. The eruption is apt to come after the fourth or fifth injection. There have been no sudden deaths clearly due to the action of the lymph. There may be an infiltration of the tissues without a true œdema. The lymph when introduced into the system may cause a very high temperature and a hectic much above the normal hectic. Exercise is desirable after injections, for it increases the appetite, and acts psychologically. All the vital forces are usually depressed by the lymph, hence the patients complain of languor. Languor is proportionate to the reaction after injection, but it may obtain when no reaction shows itself. Aphasia is probably caused by infiltration of the retro-bronchial glands, which press upon the recurrent nerve. In one instance aphasia lasted three weeks. There has been no local paralysis or violent delirium. The comatose condition sometimes occurs. The appetite improves when the reaction is not pronounced. Living tubercular tissue is affected by the lymph, not the tubercle bacilli, therefore after treatment the bacilli may be absorbed with tissue which has been necrosed and thus be a means of starting new centres of disease; or they may remain where they were when treatment was begun, in which case after absorption of the necrosed tissue they would be in a fresh nutritive medium and cause a fresh outbreak; or the necrosed tissue may not be absorbed and the bacilli die in it from lack of nutrition (Koehler). The absence of bacilli does not contra indicate injections of the lymph.

It ought to be said that the injection of the lymph has in several instances caused death, thus far five times in the Charité Hospital, Berlin. These deaths have occurred in the advanced stages of pulmonary tuberculosis. In one instance the use of the lymph induced a fatty condition of the heart, followed by cardiac failure. Should a tubercular patient have an irritable heart, or a very weak heart, very great caution should be used in injecting the remedy, large doses never being used with safety under such circumstances.

KOCH'S METHOD OF TREATMENT FOR TUBERCULOSIS, FROM PERSONAL OBSERVATIONS IN BERLIN.[1]

By MAX EINHORN, M.D.,

PHYSICIAN TO THE GERMAN DISPENSARY, AND INSTRUCTOR IN CLINICAL MEDICINE AT THE NEW YORK POST-GRADUATE MEDICAL SCHOOL.

GENTLEMEN: It is in the nature of the subject that I am not able to bring to you to-night much that is original. I have only accepted the kind invitation of our esteemed president to discuss this theme, in order to give you a *résumé* of the lymph treatment in Berlin.

Koch communicated, in his well-known paper on "Bacteriological Investigation," read at the last International Medical Congress, that he had succeeded in making guinea-pigs immune against vaccinations with the tubercular virus by inoculations with a certain substance, notwithstanding the fact that the guinea-pigs are known for their extraordinary susceptibility for tuberculosis. Likewise, that he was able to check the disease in guinea-pigs with general tuberculosis without any injury whatever to the body. Koch at that time finished his speech with the following words: "Should the hopes connected with these experiments become realized, and should we succeed in overcoming the microscopical but potent enemy in the human body, though at first in but one bacterial infectious disease, then we would no doubt very soon become enabled to accomplish the same in other diseases also. In this way a very promising field of labor will be opened, with incentives worthy to form an international contest of the noblest kind."

Now that Robert Koch has shown, in his memorable paper of November 13, 1890, that he has discovered a remedy for tuberculosis of man, it is no wonder that the attention of the whole world has been directed to this discovery. No wonder that not only physicians, but also laymen, wished to be minutely informed of every detail pertaining thereto.

This discovery of Koch to cure the disease of the tubercle bacilli gave hope, and even the probability, that we shall soon succeed in other infectious diseases also to fight with similar means against the disease producers. Hardly had we as yet recovered from that agreeable surprise when we heard that there was a possibility of making animals immune against diphtheria and tetanus.

To-night the discussion might be limited to Koch's treatment for tuberculosis.

Koch in his treatment for tuberculosis administers a remedy, the composition of which he has not as yet made public. This, which goes under the name of "Koch's lymph," or "Koch's fluid," or "Kochine," consists of a dark brownish, clear fluid, which gives no precipitate when heated to the boiling-point. It is generally believed that the main efficacy of the remedy consists in certain toxalbumins produced by bacteria. Although it is not probable, according to the suggestion of Dujardin-Beaumetz, that this product originates from the tubercle bacilli, inasmuch as guinea-pigs (who react quickly and promptly on traces of tubercle-bacilli) can stand the medicament in much larger doses than men, the toxalbumin contained in the remedy may, however, be the product of other micro-organisms, which are less noxious to guinea-pigs than to man.

Whatever the composition of the Koch fluid may be, it is certain that it acts in a specific way in tuberculosis. When brought into the organism of a tuberculous patient it causes inflammation of the tissue surrounding the tubercle-bacilli, with resulting necrosis, and produces fever even when given in small doses. This specific effect of the medicament is diagnostically of high value; it serves to corroborate the diagnosis of a tubercular affection.

The fever which arises a few hours after the inoculation of Koch's lymph is probably not due solely to the

[1] Read before the German Medical Society of New York, January 5, 1891.

resorption of decomposed tubercular tissue, as Litten believes, but must be ascribed rather to a combined effect of the medicament in alliance with certain products of the decayed tubercular tissue. The medicament itself in larger doses (over one centigramme) is, even in healthy, not tuberculous people, of a pyogenetic nature; combined with certain products of the tubercular tissue it gains in strength and displays, even in much smaller amounts, the quality of producing fever.

The method of the new Koch treatment for tuberculosis as yet cannot be considered as perfect in every way. It has been given by the discoverer of the new remedy merely in its main features. The principal and most important point consists therein that the Koch fluid has to be incorporated into the sick organism by hypodermatic injections. These have to be continued so long and in increasing doses until the affected organism can stand them without reaction in as large amounts as a perfectly healthy, not tuberculous individual. When this point is reached the treatment can be considered as finished.

The way and mode of using the remedy, even when done for merely therapeutic purposes, is as yet experimental. In giving you the following description of the method of the Koch treatment generally practised in the Berlin clinics I beg of you not to consider the assertions as unchangeable rules. On the contrary, it would be advisable to give every new idea, in reference to some modification of the method, a trial.

The different kinds of tuberculosis may be aptly classified as to the Koch treatment, as follows: (*a*) Lupus, tuberculosis of the skin; (*b*) tuberculosis of the joints, bones, and glands—surgical tuberculosis; (*c*) tuberculosis of the larynx; (*d*) tuberculosis of the lungs; (*e*) tuberculosis of other internal organs—brain, bowels, kidney, bladder, etc.

Lupus: the surgical and larynx tuberculosis form that field where the proceeding changes after the incorporation of the remedy can be very plainly observed, and where positive results have already been obtained. In lupus and in the surgical tuberculosis they begin in Berlin, provided that the patient is otherwise a healthy and robust individual, with large doses; 0.01 milligr. of the lymph is usually given in the first injection. If there follows a strong reaction (temperature of 40° C. and above), which is almost the rule, the same dose is repeated after the patient has perfectly recovered from the reaction, and had an interval of one day with normal temperature. But if the reaction after the first milligramme was only slight (temperature of 38° C.), in the next injection a larger dose is given.

In tuberculosis of the lungs and the larynx one proceeds much slower with the doses of Koch's remedy. As a rule one begins with one, at the utmost with two milligrammes and increases in the way of milligrammes.

Cases of meningitis tuberculosa are hardly appropriate for Koch's treatment, in fear of an eventual œdema or hyperæmia of the brain.

As regards the tuberculosis of the other internal organs there are as yet only few experiences, and it is necessary to begin with milligrammes.

The phenomena which are observed on the patients after the injection are classified into such of local and such of general nature, "local" and "general reaction."

In lupus, the surgical tuberculosis and the tuberculosis of the larynx, the local reaction can be best observed. A short time after the injection (sometimes after one hour and even earlier), there arises a reddening and swelling of the diseased spot, combined with an elevation of the temperature on the same place. This local reaction appears everywhere in the tissue surrounding the tubercle bacilli and consists in an acute inflammation of the same with issue in necrosis.

In the tuberculosis of the lung the local reaction, although concealed to the eye, can nevertheless be very well observed. The patients feel, sometimes, an oppression in the chest and must often cough much more; objectively there can be found in the greatest majority of cases an increase of the abnormal auscultatory phenomena.

The general reaction appears in all kinds of tuberculosis in a like way; it begins four to five hours after the injection, and consists in a general fatigue, uneasiness, shivering, fever, and several other phenomena which are the consequence of the fever (nausea, vomiting, etc.). The fever can attain very high degrees, especially after large doses of the remedy. Sometimes there occur, very shortly after the appearance of the fever, exanthems on the body; most often herpes and roseola have been observed; more seldom the scarlatinous exanthema with a consequent typical degeneration of the skin. The increased temperature usually lasts only a short time and soon returns to the normal; sometimes after the decrease there is another elevation of the temperature, and this may be repeated under certain circumstances several times. The picture of a patient with a strong general reaction reminds one of the symptoms of an acute septicæmia.

In reference to the results obtained by the Koch treatment, they are in a high degree satisfactory in lupus, the surgical and laryngo-tuberculosis. One can see how stiff joints become movable, fistulas disappear, and cicatrices develop on ulcerated spots. Nobody, however, is able to tell whether there would not be any relapses. In tuberculosis of the lung in the middle stage there appears sometimes (after the point at which no reaction has been reached) a visible amelioration in the condition of the patient. The expectoration is diminished, the night sweats cease, and the fever does not make its appearance. It is, however, at present, impossible to say how much of the amelioration may be due to suggestion, and how long the ameliorated condition will last. The advanced stages of tuberculosis are not appropriate for the Koch treatment, because a more rapid development of the process may sometimes arise after the injections.

All cases included in the category of beginning phthisis, however, should be subjected to the Koch treatment. In Koch's department at the Moabit Hospital there were two girls with tuberculous apex catarrh, in which all pathological symptoms, even objective, disappeared completely after two months of treatment, and who for the present may be regarded as cured.

Having roughly presented to you the main features of the Koch treatment, I now desire to call your attention to the dangers and complications which may arise upon its administration.

Large doses (1 ctgm.) readily induce collapse. In two of von Bergman's cases with tubercular joint disease I saw temperature of 41.5 C. (107° F.), and over, and the patients in a condition of extreme collapse which was only combated by most vigorous stimulation, thereby preventing a fatal termination. Even with smaller doses, under some circumstances, collapse may supervene. Let me call your attention to the case at Innsbruck, a young girl of sixteen years, suffering from lupus, who after the first injection of only 2 milligr. developed a temperature of 107° F., with sopor and collapse, and died at the end of thirty-six hours.[1]

In tuberculosis of the larynx we may see œdema of the glottis, necessitating tracheotomy.

In cases of pulmonary tuberculosis hemorrhages have frequently been observed, still they were never of a very serious nature.

The danger of general infection through distribution of the bacilli from a degenerated nucleus is possible; is, however, of infrequent occurrence, and the bacilli in the blood are usually overcome and rendered innocuous by the succeeding injections.

The present mode of applying Koch's remedy develops in the affected organism a diseased condition which is much more severe, and besides is fraught with many dangers. Improvement and respective cure of the

[1] Berlin klin. Wochenschr., 1890, No. 51, pp. 1182.

affected organs supervenes only after these artificially induced conditions no longer appear.

As we occasionally observe local reaction without general reaction, without a febrile movement, etc., we may ask whether it would not be advisable to begin the treatment with very minute doses; the organism becomes rapidly tolerant to the remedy, and after a time would also accommodate itself to larger doses without the symptoms of fever, etc. If it be possible to produce the same results with this mode of treatment, it is certainly much more preferable and less danger is connected therewith.

A detailed account of the picture presented to us in the course of the Koch treatment was unnecessary, especially as all of you have the opportunity to witness it yourselves at the various hospitals, and particularly at Mt. Sinai and German Hospitals, where our beloved president made the first injections. I have not looked to details in my paper, and it is written only for the purpose of eliciting discussion upon this important subject.

Before closing, however, I cannot abstain from reminding you that, in spite of all credit due to Koch, Pasteur, the father of modern bacteriology and the discoverer of the cure for rabies, should not be forgotten.

Now and to eternity do we and the whole world owe thanks to both Pasteur and Koch for the important discoveries they have presented to us.

120 East Sixty-fourth Street.

Progress of Medical Science.

Oxaluria.—Cantani states that an assemblage of nervous manifestations, of decidedly abnormal character, lasting for several years, may, under the influence of certain causes, undergo transformation more or less suddenly into a pathological state which is characterized by the appearance in the blood of oxalate of lime, and by the excretion of this salt in the urine. In these cases we have to do, not with an accumulation, the result of diet, but with an abnormal and continuous production of oxalic acid, at the expense of the tissues of the organism. We have here a quite particular individual predisposition, an alteration of the nervous system, and very likely of the cerebrum; the result of this affection of innervation is a retardation of nutrition, or, it may be, a qualitative abnormality in the transformation of the sugar circulating in the economy. The abuse of gaseous waters, and particularly of Seltzer waters, according to Cantani, has a great importance on the etiology of oxaluria. Heredity has also a considerable part, and Cantani's observations agree with those of Neidert, that diabetes may alternate with oxaluria, or coexist with it. Oxaluria is a disease *sui generis*, which, by itself and the accidents which it occasions, has a character of sufficient gravity to cause death. Considering our ignorance of the pathogeny of this affection, it is difficult to institute any rational therapeutics; but as the nervous and gastric troubles are the initial and essential symptoms, we should first combat these. The ingestion of easily digestible azotized aliments will enable one to guard against the evils of abnormal oxidation processes, and spare the nitrogenized tissues. Warm baths, with frictions and cold affusions during the bath, have rendered incontestable service against the nervous manifestations, and especially the trembling of the extremities, and the insomnia; Faradization has also given good results. Medicines of every kind have always failed; Cantani, nevertheless, recommends hydrochloric acid, pepsin, the carbonated alkalies, and especially, bicarbonate of soda and lithia. Neidert affirms that he has obtained the best results from a rigorous nitrogenous regimen similar to the diabetic regimen.—*The Boston Medical and Surgical Journal.*

Eczema from the Use of Creolin.—Cases have recently been reported in which more or less unfavorable results have followed the employment of creolin. In the majority of these cases the effects are attributable to the phenic acid and its derivatives in this proprietary remedy. Dr. Borehmeyer reports the case of a child, two and a half years of age, in which a severely-contused wound was treated by applications of a one and a half per cent. solution of creolin. On the fourth day the finger was covered with vesicles, both small and large, which ruptured spontaneously, giving issue to a yellowish liquid. The eruption soon disappeared from the injured hand, and, on the removal of the application, a cure was rapidly procured, though the eruption again returned on renewed application of creolin. So also Dr. Wackez publishes an account of seventeen different surgical cases treated by creolin. In ten of these union by first intention occurred; in seven the creolin produced eczema, erythema, and vesicular eruptions, and desquamation of the skin in large patches; at the same time the patients had more or less severe constitutional disturbance, and an examination of urine showed that these poisonous effects were attributable to the presence of phenol. It would seem, however, that children are especially susceptible to the deleterious effects of phenol and its derivatives, and hence are more readily influenced by creolin. —*Therepeutic Gazette.*

Tuberculosis Uro-genitalis.—Dr. J. P. Bryson (*Boston Medical and Surgical Journal*) says that: 1. The pathogenic factor reaches the parts involved by way of the hæmatic channels. 2. More than one part of the urogenital system is affected very early in the history of the disease, perhaps simultaneously. 3. The prostato vesical and periprostatic regions show by far the greater liability to early involvement. 4. All the evidence points to the conclusion that we have to deal, even in its earliest recognizable stages, with a general disease which manifests itself by localization. 5. Present experience does not warrant the belief that operations, however extensive, undertaken with the view of excising localized lesions and thereby radically curing the disease, will be successful. 6. Our chief resource is still in general anti tubercular treatment, reserving surgical interference for the palliation and relief of pain, bleeding, and wasting suppuration.

Salicylic Acid for Corns.—Dr. H. M. Whelpley, writing on the treatment of corns in *Notes on New Remedies* says that probably the most popular corn cures depend on the action of salicylic acid. Among the many therapeutic properties of this remedy is its power to disintegrate epithelial tissue. It is usually combined with cannabis indica. The form the writer has found useful is to mix nine parts of salicylic acid with one part of extract of cannabis indica and forty-eight parts of collodion. This is applied to the corn every night, with a camel's hair brush. The foot should be clean before it is applied, and the mixture permitted to thoroughly dry before it comes in contact with clothing. A salicylic acid corn plaster is made by melting six parts of resin, and adding five parts of balsam of fir, and then stirring in ten parts of salicylic acid as it cools. This can be spread on any suitable medium for a plaster. When used, the corn must not be rubbed with the shoe. Lanolin forms the basis of another salicylic acid plaster, and cocaine is added with the idea of making it painless. To form the plaster, mix six drachms of salicylic acid thoroughly with ten drachms of lanolin. Dissolve five grains of hydrochlorate of cocaine in a small quantity of warm alcohol and mix the solution with one fluid ounce of creasote. Mix one-half ounce of melted white wax with one half ounce of vaseline and add the creasote solution. To this add the cocaine solution and mix.

Quassia for Phtheiriasis.—Lice and other parasites are removed from the hair quicker and better by a decoction of quassia, to which a little borax and glycerine have been added, than by almost any other known means.—*Medical Brief.*

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & Co., Nos. 56 and 58 Lafayette Place.

New York, January 10, 1891.

THE ENZYMES AND KOCH'S DISCOVERY.

IT is well known that peptones are capable of producing toxic symptoms when injected into the current of the blood. Schmidt-Mühlheim appears to have been the first to call attention to this fact some ten years ago.

Béchamp and Baltus have also pointed out that various enzymes acted as powerful poisons when injected into veins. Dogs can be killed by relatively small doses of pancreatin and the diastase of malt. Diarrhœa and vomiting follow their intravenous use, and autopsies show congestion and hemorrhage of many organs. The enzymes reappear in the urine.

Drs. Nencki and Sahli have just published a preliminary communication on this subject in the *Correspondenzblatt für Schweizer Aerzte*, chiefly on account of the great interest excited by Koch's recent announcements regarding his lymph. The enzymes, or soluble ferments, belong to the group of proteid bodies known as toxalbumins. That the enzymes, like the peptones, are albuminoids, has been demonstrated by Loew (*Pflüger's Archiv*).

It can be now stated that every organism, no matter how minute, produces enzymes. Indeed, some of the lowest known organisms, as the algæ and schizomycetes, have of late had very powerful enzymes assigned to them. A few years ago Nencki published some observations (*Archiv für exper. Pathol. und Pharmacol.*, vol. xx.) in which he referred to the enzymes as follows: "The action of enzymes is due to the labile groups contained in each molecule. They are very unstable bodies. Acids, alkalies, metallic salts, and alcohol destroy their potency. Even keeping enzymes in a dry state at ordinary temperatures renders them liable to undergo radical changes. They often become insoluble or entirely inert under such circumstances. High temperatures are also inimical to enzymes."

Considerable discussion has taken place recently concerning the methods by which the animal body resists microbic invasion, more particularly in infectious diseases. The phagocytes of Metchnikoff are credited with much power in this direction. Healthy blood-serum has likewise been found to be possessed of bacteriocide properties. Now it is quite possible that just as the action of pathogenic bacteria on the human organism is very variable, so, too, the body may "react" in many different ways toward their presence. And it is further very probable that such "reactions" are brought about precisely by these changeable enzymes; that they, in fact, represent so many weapons employed by the body in its fight against infection.

In this connection it must appear strange that, under normal conditions, the enzymes and even the peptones of the alimentary canal do not enter the blood-current, or else do so only in very minute quantities. For the peptones it has been definitely ascertained that they are converted into true albumins within the mucous membrane of the digestive tract. Similar changes presumably occur in the enzymes.

Nencki offers the following theoretical consideration in explanation of certain well-known phenomena, which we may perhaps simply call the *vis medicatrix naturæ*: If certain organs of the body are threatened by invading microbes, the enzymes are called upon to avert the danger, or lessen its effects. To us such an arrangement would appear much like the telegraphic fire-alarm of modern cities. And the human organism, acting in an automatic manner, the inconvenience or danger of false alarms would seem to be obviated.

The authors suggest that the good effects observed after the inoculation of the organism of erysipelas in malignant neoplasms, may be entirely due to the production of potent enzymes by the cocci in question. Bouchard and others have certainly shown that the products of the metabolism of specific microbes confer immunity upon the body against infection from that particular organism.

Keeping these points in view, Nencki and Sahli have already undertaken inoculation experiments on human beings, after having made preliminary tests in animals. We are promised more information in subsequent communications. The statements now put forward have been prompted by Koch's publication, and the authors hint at the strong belief entertained by them that Koch's lymph belongs to the group of bodies known as enzymes, or soluble ferments.

Of course, where so little is actually known, one man's guess is as good as another's. Nevertheless, Nencki and Sahli have already become known through a number of faithfully conducted observations, so that we shall await with interest their further communications on this interesting subject.

ON THE ABUNDANCE OF MEDICAL LITERATURE.

DR. JAMES ANDREW, in his Harveian oration, delivered in October last, says these words:

"In the first rank of the ills which beset the profession I do not hesitate to place the enormous amount of so-called medical literature. Were it all good there would still be quite enough of it. But could we get rid of the vain repetitions of all those books which contain little or no original work, and are too often the damaged seed, not the fruit, of practice and of a ripe experience; could we get rid of all the clinical observations, with the idle theories based upon them, which from their imperfections are simply misleading; could this be done, the residue would, no doubt, be small."

While appreciating the feelings which animate the distinguished lecturer, we cannot go quite so far as he in his condemnation of current medical literature. It must be

remembered that medicine has to be entirely rewritten almost every decade. With the exception, perhaps, of anatomy and obstetrics, there is not a text-book published in the eighties which would be consulted or studied systematically now, unless thoroughly revised. Then, again, there is constantly a new influx of young medical men, to whom much that to older physicians seems commonplace and valueless has a decided use.

The speaker's remarks about a certain much-esteemed bibliographical monthly will awaken feelings of genuine horror among those who have been self sacrificingly contributing to its support. He says:

"There is one publication which I regard with especial horror, the 'invaluable' *Index Medicus*. I find that the volume for 1889, the last completed but not the greatest of eleven volumes, contains the names of not less than 13,870 contributors. Now, the index of the *Index* fully bears out the supposition that each pair of contributors represents not less than three communications, and thus we have a total of not less than 20,000 contributions to medical science for last year. I have much pleasure in admitting that many of them are short; but then it must not be overlooked that very many of them are substantial treatises in two volumes or more."

The trouble with the *Index* is not its bulk, however, but the fact that it is ingeniously arranged and published, so as to be relatively valueless to those who wish to consult it, and have not indefinite leisure for so doing.

The quotation from Harvey given by Dr. Andrew bearing upon the subject in hand is doubtless true and is certainly most interesting and pertinent. "I venture to think," says Dr. Andrew, "that no small part of medical literature would never have been written had its authors given heed to Harvey's words at the end of the dedication of his treatise on the 'Motion of the Heart and Blood.' 'My dear colleagues,' he writes, 'I had no purpose to swell this treatise into a large volume by quoting the names and writings of anatomists, or to make a parade of the strength of my memory, the extent of my reading, and the amount of my pains; because I profess both to learn and to teach anatomy, not from books but from dissections; not from the positions of philosophers but from the fabric of nature. I avow myself the partisan of truth alone; and I can indeed say that I have used all my endeavors, bestowed all my pains in an attempt to produce something that should be agreeable to the good, profitable to the learned, and useful to letters.'"

Let our medical authors, young and old, bear these words ever in their memory.

PROGRESS OF THE KOCH TREATMENT ABROAD.

Reports of clinical tests with Koch's lymph continue to occupy much space in our foreign exchanges.

Gerhardt states that apparently tuberculosis of the larynx is more amenable to treatment by lymph than ordinary tuberculosis of the lungs.

Leyden says that, on the whole, the diagnostic value of the remedy can be accepted. Nevertheless, it is not absolute. He has found non tubercular patients developing reaction, and also tubercular patients without it. He is also of opinion that the prognosis of cases subjected to lymph treatment cannot be positively stated from the manner of their reaction. We cannot as yet say that a strong reaction means much tubercular tissue and a mild one only a little of it. Nor is he willing to proclaim a patient as cured when reactions have ceased. As regards ordinary phthisis, the well-advanced cases were not at all benefited by the treatment. In the earlier stages some patients did well and others were very much improved. He would regard a patient as cured only if he remains free from relapses for several years. It is to be remembered that the early stage of phthisis is amenable to treatment by ordinary methods hitherto employed, and that it is precisely in this stage that the lymph treatment has given its most promising results. Finally, he says that it would be wrong to neglect older methods and employ the Koch treatment exclusively. He agrees with Fraentzel in the statement that the lymph leads to such extraordinary manifestations that every day new impressions of its power and manifold action are received. It is to be hoped that the lymph may yet turn out to be a true specific for tuberculosis.

Ewald, Henoch, Litten, Helferich, Hofmeier, Kast, Rydygier, Cornil, Heron, Watson, Cheyne, and many others have published their observations, and the general consensus of opinion seems to be to the effect that the diagnostic significance of the lymph is no longer doubtful.

Professor Sonnenburg is using surgical measures in dealing with cavities in the lungs.

Ewald records the rapid absorption of pleuritic effusion under lymph treatment. He has not yet found objective signs pointing to as radical changes in the anatomical condition of the lungs in phthisis.

Jarisch has published a case under treatment for lupus vulgaris in which death occurred thirty-six hours after the injection of 0.002 gm. of lymph. At the autopsy congestive swelling of all tubercular deposits, including tracheal and bronchial glands, was the most obvious condition found. In the lungs disseminated pneumonic infiltrations and œdema were seen. Brain and spinal cord markedly œdematous. Enlargement of the spleen, and slight tumefaction of the liver and kidneys were also noticed. Capillary hemorrhages were observed into the pleura, the pericardium, the thymus gland, and the spinal cord.

Hofmeier has found Koch's lymph to be well borne by two pregnant women.

Burkart (*Berliner klinische Wochenschrift*, December 22, 1890) states, as the result of his experience, that Koch's lymph must be employed with the utmost caution, or not at all, in advanced phthisis. In all consumptives, asphyxia, due to unsuspected laryngeal tuberculosis, and intestinal perforation, due to necrosis, are to be thought of as possible accidents.

Professor v. Ziemssen (*Münchener Medicinische Wochenschrift*, December 16, 1890) is more favorably impressed with the curative properties of the lymph than some of his German confrères. He has had one hundred and forty cases under observation. Hyperæmia of the conjunctiva palpebrarum was often noticed. The spleen was frequently found enlarged. The weight of the body diminishes, probably on account of the febrile re-

actions. No perceptible effect on the number of bacilli in the sputum could be found. Cough, at first increased, later diminishes so that narcotics can be discontinued.

From Switzerland it is reported that the number of consumptive patients now undergoing Koch's treatment at Davos exceeds five hundred. In none of the cases have any alarming symptoms been observed, while in many patients a ten to fourteen days' course of the injection is said to have had highly encouraging and in some even "very striking" results, which could have been obtained only by several months' treatment according to the old-fashioned methods formerly practised at the Alpine health resort. It is added that the amelioration was observed even in cases of a decidedly severe nature.

The cases reported from England show about the same results that have been witnessed elsewhere.

In Spain the lymph was given to two lepers. One fatal issue is said to have resulted from inoculations in the case of a girl.

It is announced that a sanatorium designed expressly for the carrying out of Koch's treatment will shortly be opened at Nervi by Dr. Launien.

Dr. Angerer, Director of the Munich Surgical Clinic, is much encouraged by his results in surgical cases. He warns against rash employment of the fluid, on account of latent or unsuspected internal tuberculosis in external surgical affections of the same nature.

Dr. Schede, Surgeon-in-chief of the Hamburg Hospital, expresses his opinion to the effect that surgical measures will remain indispensable in dealing with accessible tubercular manifestations, such as white swelling and the like. He does not believe it at all justifiable to employ the lymph in marasmic or otherwise enfeebled patients. The constitutional "revolution" engendered by Koch's lymph is dangerous in that class of sufferers.

Professor v. Jaksch, of Prague, observes that the elective affinity of the lymph for tubercular tissue is now abundantly established.

Czerny, of Heidelberg, believes that advanced cases of phthisis can only be injured, instead of being benefited by the lymph. He has seen, in surgical cases, violent local reaction without constitutional symptoms, and also the opposite phenomena, of general symptoms without appreciable local change.

Ebstein, of Göttingen, sees a contra-indication for the use of lymph in the presence of intestinal or peritoneal tuberculosis, on account of the great danger of sloughs, leading to perforation.

Virchow says the lymph is dangerous in children and very old people. But he believes it may be possible to effect a cure in the very earliest stages of phthisis.

THE STATE HEALTH BOARD.

In his annual message to the Legislature Governor Hill recommends the abolition of the State Board of Charities and State Board of Health. In their place he advises the appointment of a single man, upon whom responsibility and executive work would be concentrated.

We hardly see the need or wisdom of such a change. Heretofore, in all parts of the world sanitary work has been done through the agency of Boards or Commissions. There is necessarily always one member who is the executive officer, and on whom the responsibility mainly falls. But this officer has the advantage of being able to obtain advice and support from his colleagues. The Board system has worked well; the single officer system is an experiment, and we can find no good reason for attempting it.

In the case of the Lunacy Commission of this State, it is well known that while there was but one Commissioner there were constant complaints, and relatively little progress in lunacy reforms. Since the establishment of a triple Commission, a great deal more has been done both in securing new legislation and in carrying out effectively existing laws.

News of the Week.

A Good "Annus Medicus."—The articles put forth at the beginning of each year under the head of "Annus medicus" are ordinarily rather juiceless and uninteresting reading, but our Yankee contemporary, the *Boston Medical and Surgical Journal*, publishes this year an "Annus" that is concise, complete, and worthy of attentive perusal.

Italian Quacks and the Lymph.—The *Basler Nachrichten's* special Italian correspondent, writing from Milan, states that Koch's discovery is there degraded in a highly disgraceful manner. Circulars are sent round by obscure doctors, announcing that they have just received a sufficient supply of Koch's lymph, with which they are prepared to cure consumptive patients. The lymph is in no case genuine, and yet phthisical patients, of whom there are many in Milan, flock to fill the coffers of those medical *chevaliers d'industrie*. The authorities have as yet taken no step to prevent or punish this abuse. The following is a translation of the inscription on the signboard of a "dispensary:" "Teeth extracted, corns cut, and tuberculosis cured after Professor Koch's method."—*British Medical Journal*, December 27, 1890.

Chromatic Antiseptics.—Before the recent introduction of aniline colors as antiseptics, one could often tell by their various odors what antiseptic substances a surgeon preferred; but now the hues that adorn his hands give him away. Steady elderly gentlemen may be content with a monochromatic dressing; while younger men, of more æsthetic tastes, will prefer substances more cunningly mingled, so as to produce the general effect of the patch-work quilt of our aunts and the coat of Joseph.—*Boston Medical and Surgical Journal.*

A Hospital Historical Club has been organized at the Johns Hopkins Hospital, for the purpose of studying medical history. Dr. Welch was elected president. Dr. Kelly proposed for the society the motto "Il importe beaucoup de connoître l'histoire de la science à laquelle on s'attache." (Éloge Critique de Boerhaave, taken from the titlepage of the "Dictionnaire Historique de la Médecine," Eloy, Mons, 1778.) He presented a curious American book on "Primitive Physic; or, an Easy and Natural Method of Curing most Diseases," by John Wesley, the Father of Methodism; 125 pp., printed at Trenton, New Jersey, by Quequelle and Wilson, 1788.

Another Claimant for a Curative Lymph. — Dr. Joseph Craft, of Cleveland, announces that he also has a "curative lymph" which resembles Koch's, in this respect at least, that its formula is not given. Dr. Craft states that he is "a healthy young man," and we would add a modest one. An injection of the lymph caused a rise of temperature in himself, but he does not seem to have gone further than this in his experimentation, unless it be the brief statement that he has "put it to the crucial test on rabbits and guinea-pigs." It is not creditable to American science or sense that, upon such absolutely baseless foundations, assertions regarding a curative lymph should be seriously received. The very fact that it causes a fever in "a healthy young man," shows that it is not in any way like the Koch fluid.

Professor Frank Baker, the well-known anatomist, has been appointed Curator of Comparative Anatomy at the Smithsonian Institution, and *ex-officio* Superintendent of the National Zoological Park. It is gratifying to learn of the appointment of a competent anatomist to a position of this kind.

A Well-equipped Hospital exists at Greytown, Nicaragua, having a capacity of one hundred and twenty-five beds. Dr. J. Edward Hubbert is the surgeon in charge. It belongs to the Canal Company and is for the benefit of its employees. The material largely used in the construction of the hospital buildings—twelve in number—is corrugated iron, thus obviating in part the dangers of fire and infection. The wards are said to be furnished throughout with all the appliances that are found necessary in the best-regulated hospitals of New York, while, thanks to the mild climate, measures for ventilation have been available that could not be employed in colder climes. A corps of trained nurses has been taken down, also a competent pharmacist with a liberal provision of drugs.—*New York Medical Journal.*

Medical Prizes in Paris.—The Académie de Médecine, of Paris, has twenty-eight annual prizes to award, varying in amount from $50 to $5,000. In the past year one hundred and seven essays were received in competition, or an average of about four for each prize. In eighteen cases the prizes were awarded; in ten, no essay of sufficient merit was received.

A Fat Men's Congress was recently held at Berlin, and the following data were collected: Herr Berg, a brewer, from Sraulau, was the largest man, weighing 399 pounds, or upward of 28 stone; Ferdinand Colin, from Angemunde, another delegate, weighing 365 pounds; and Herr Hubert, a saloon keeper of Berlin, weighing 364 pounds.

Dr. Gideon B. Perry, one of the oldest practitioners in Brooklyn, died on December 30th from heart trouble. Dr. Perry was born in Hopkinton, R. I., in 1826, and was graduated from the University of the City of New York in 1851.

Northwestern Medical and Surgical Society of New York.—On p. 731, issue of MEDICAL RECORD, December 27th, a news item, headed "Northwestern Dispensary," should be Northwestern Medical and Surgical Society, as it states the election of said society, and has nought to do with the Dispensary.

The American Association for the Study and Cure of Inebriety is now holding a series of monthly meetings at the Academy of Medicine in this city.

Professor Bartholow's Successor.—The trustees of Jefferson Medical College have elected Dr. A. P. Brubaker as the successor to Professor Bartholow in the Chair of Materia Medica and General Therapeutics.

Elizabeth, not Emily.—Dr. Emily Blackwell, of this city, writes: Will you kindly correct an error in the letter of Dr. Stephen Smith on the "Co-education of the Sexes," printed in your last number. The error is in the name of the student referred to. The name should be Dr. Elizabeth Blackwell. It was my sister Dr. Elizabeth Blackwell who studied at Geneva, and it is to her that the article refers.

The Proposed Italian Hospital.—Dr. G. W. Kirch, of this city, writes: In the issue of December 27th of the MEDICAL RECORD, in an article on the Italian Hospital to be founded in this city, you express the opinion whether hired interpreters for the various existing city hospitals could not accomplish a charitable work for very much less money than would be required for a new hospital. The language is not the only difficulty for the poor Italians to be made comfortable in the city hospitals. The question of food and nourishment is far more important, and Italians are accustomed to such a different diet from Americans that, particularly when they are ill, they want food prepared as is customary in their own country. There are many other obvious reasons for which an Italian hospital is needed and which would be too long to enumerate. I hope and feel certain that you will use your valuable influence to assure the success of the Italian Hospital in this city.

The New Jersey Sanitary Association held its sixteenth annual meeting at Trenton, on Friday and Saturday, December 12th and 13th. Ten papers and addresses were read.

"The Jolly Bacillus."—A coffee-house, with pretty waitresses, has opened in Berlin, bearing over its portals a sign consisting of Koch's portrait, with the inscription, "The Jolly Bacillus."

Medical Legislation in Nebraska.—A bill for an act to establish a State Board of Health and Medical Examiners, and to regulate the practice of medicine, surgery, and obstetrics in the State of Nebraska, has been prepared and will be brought before the Legislature.

Professor Nicholas Senn has resigned the professorship of Surgery and Surgical Pathology of Rush Medical College, Chicago. The resignation has been accepted.

A Brooklyn Post-Graduate Medical College.—According to the *New York Medical Journal*, articles of incorporation have been filed in Brooklyn as a first step toward the establishment of a post-graduate hospital and school in that city. The management of the institution will be vested in a board of medical councillors, among whom are Dr. Charles Jewett, Dr. Fowler, Dr. Jeffrey, Dr. Evans, and Dr. Butler. The aim of the faculty will be to cover every field of study in surgery and practical medicine. An outdoor department is included in the future scope of the enterprise.

There are Six Thousand Applications for the Koch lymph on file in Berlin.

Medical Journalism in Berlin.—The *Berliner klinische Wochenschrift* publishes two editions weekly in order to satisfy the demand for news about the "lymph."

If Koch's Lymph is scarce at Berlin, it is abundant at Davos Platz, where the arrival of some twenty five phials was announced a few days since, being enough to treat a thousand patients for a couple of months! There are 1,400 cases at Davos.

The United States Government and the Curative Lymph.—The Hon. Mr. Platt, M.C., of Connecticut, has introduced a resolution to appropriate $10,000 to enable the President to take action to obtain from the German Government a supply of the remedy discovered by Dr. Koch, and the formula for its manufacture.

The Librarian of the New York Hospital.—On January 1st the librarian, Dr. John L. Vandervoort, retired from the office of which he has discharged the duties almost continuously since 1837. At the time of his appointment the library consisted of only 4,166 volumes. Since then over 14,000 volumes have been added. Those who have had occasion to use the library in question will greatly miss the presence of the courteous and venerable librarian. The duties will be assumed by his son.

A Convention of American Physicians interested in electro-therapeutics has been called to meet at the Academy of Medicine, No. 17 West 43d Street, New York, on January 22, 1891, at 11 A.M., for the purpose of organizing an American Electro-therapeutic Association. The committee in charge consists of Drs. G. Belton Massey, A. H. Goelet, and H. R. Bigelow.

Reported Death of Professor Weigert.—The report of Professor Weigert's death, which was published in the German papers, is incorrect. He has been suffering very severely from a post-mortem wound, but he is now recovering.

The Paris Municipal Council and Koch's Method.—At one of the last sittings of this body a member proposed the following resolution: "The Council invites the authorities to prohibit in our hospitals any experiments being carried on with a substance the composition of which is unknown." This resolution was rejected by the substantial majority of 47 to 7, which says much for the good sense of the municipal council; for, considering its pronounced political feeling and international prejudices, it might have been credited with acting otherwise when it is borne in mind from what quarter the "unknown" emanates.

The Time of Day for Operating.—In this country most operations are done in the afternoon. The introduction of electric light has made it possible to operate until late in the day if needed. In Europe the practice of operating in the morning is common. The *British Medical Journal*, discussing this subject, says: "There is considerable difference of opinion among surgeons, as to whether it is best to operate early in the morning or in the afternoon. Many prefer the morning. They say that the patient is saved the suspense of being kept waiting till the afternoon, and the surgeon has the better chance of a good supply of sunlight or of its equivalent in this country. Both these reasons have considerable force. Other surgeons maintain that early operating implies a sleepless previous night. The shades of evening, a greater promoter of sleep than blinds and screens, come on sooner when the operation is performed in the afternoon. This physical fact also implies greater chances of rest in another respect, for there is less fear of subsequent disturbance from noises inside or outside the house when the surgeon operates late. Long operations may seriously tax the surgeon's strength and nerve, and in this respect again the afternoon is better for operating than the morning. In private practice, and wherever freedom from noise and plenty of warmth can be insured, the morning is probably the best time, especially in summer."

Men who are Working with Koch.—Professor Karl Fraenkel, whose highly important experiments with a view to conferring immunity against diphtheria, are now one of the chief topics of discussion in the medical world, is a pupil of Robert Koch. He passed his final examination as a physician in 1885, was appointed assistant in the Hygienic Institute on its establishment, and soon became Koch's first assistant there. In 1887 he established himself as private lecturer in Berlin University. About a year ago he was appointed professor of hygiene at Königsberg. He became generally known in medical circles by the publication of his "Elements of Bacteriology," in 1886. This book recently appeared in a third edition, and has the reputation of being the best of its kind. The most important of Fraenkel's special investigations are those of bacterial poisons, which he made in common with Ludwig Brieger. They led to the discovery of toxalbumin, and to that above mentioned. His other discoveries are those concerning the bacterial contents of ice, the cultivation of bacteria which thrive without air, the occurrence of micro-organisms in the various layers of the soil, etc. Dr. Kitasato, a Japanese by birth, has lived in Germany, for five years, and has occupied himself almost all the time with bacteriological studies in the Hygienic Institute here. The biology of the cholera bacillus has been the theme of many of his researches. He has investigated its behavior in milk and in fæces, and its relations to other pathogenic and non-pathogenic bacteria in nutritive solutions. He has also gone deeply into the study of the tetanus germs, and has now published the results of his investigations in his article on immunity. One of his chief discoveries is that of the musk fungus. Dr. Ernst Behring, who has shown, in conjunction with Dr. Kitasato, how immunity against diphtheria and tetanus is conferred on animals, is an army surgeon, and has been working as an assistant for about a year and a half past in the Hygienic Institute here. Among his first studies after he became a surgeon, ten years ago, was the manner in which antiseptic remedies for wounds, especially iodoform, act, and he made a special study of the symptoms of iodoform poisoning. He afterward tested the antiseptic value of silver solutions, creoline, and other chemicals. Cadaverine, the etiology of anthrax, and the immunity of rats are also among the themes to which he has devoted special attention, but diphtheria has recently been his exclusive study.—*The Lancet.*

THE KOCH TREATMENT IN NEW YORK.

CASES AT ST. MARK'S HOSPITAL.

Service of DRS. L. WEBER and GEORGE W. RACHEL.

(Reported by DR. KAHN, House Physician.)

Report of old and new patients treated at the St. Mark's Hospital, from December 22, 1890, to January 6, 1891.

Old Cases.

CASE I. *Phthisis.*—William P——. December 23, 1890. 9 A.M.: Temperature, 98.2° F.; 5 P.M.: Injection of 0.002 milligr.; 11 P.M.: Temperature, 100.4° F.

December 24th. 9 A.M.: Temperature, 98.2° F.; 3 P.M.: Slight chill; 4 P.M.: injection of 0.002 milligr.; 10 P.M.: Temperature, 100.2° F.

December 25th. 9 A.M.: Temperature, 98.2° F.; 4 P.M.: injection of 0.002 milligr.; 5 P.M.: Temperature, 101° F.

December 26th. 9 A.M.: Temperature, 98.2° F.; 7 P.M.: Temperature, 101° F.

December 27th. 7 A.M.: Temperature, 101° F.; 5 P.M.: injection of 0.002 milligr.

December 28th. 5 A.M.: Temperature, 97.6° F.; 7 P.M.: Temperature, 101° F.

December 29th. 9 A.M.: Temperature, 98.2° F.; 5 P.M.: Temperature, 101° F.; injection of 0.002 milligr.

December 30th. 9 A.M.: Temperature, 98.2° F.; 7 P.M.: Temperature, 101.2° F.

December 31st. 9 A.M.: Temperature, 97.3° F.; 5 P.M.: Temperature, 101.1° F.; injection of 0.002 milligr.

January 1, 1891. 7 P.M.: Temperature, 101.2° F.

January 2d. 7 P.M.: Temperature, 101.4° F.

January 3d. 9 A.M.: Temperature, 98.3° F.; 5 P.M.: Injection of 0.003 milligr.

January 4th. 9 A.M.: Temperature, 101° F.

January 5th. 9 A.M.: Temperature, 97.4° F. Sputum shows no appreciable difference in number of bacilli, but most of them are smaller and their outlines not as straight as at first examination.

CASE II. *Phthisis.*—Samuel S——. December 23, 1890. 5 P.M.: Temperature, 99° F.; injection of 0.002 milligr.

December 24th. 9 A.M.: Temperature, 98.2° F.

December 25th. 9 A.M.: Temperature, 98° F. Complains of increased cough, but very dry and troublesome; slept much better than before, and feels excellent; 4 P.M.: injection of 0.002 milligr.

December 26th. 9 A.M.: Temperature, 98.4° F. Had seven hours' sleep; feels first-rate; cough and expectoration easier.

December 27th. 9 A.M.: Temperature, 98.2° F.; 5 P.M.: Injection of 0.002 milligr.

December 28th. 9 A.M.: Temperature, 99° F.; 7 P.M.: Temperature, 102° F.

December 29th. 7 A.M.: Temperature, 98.2° F.; 5 P.M.: Injection of 0.002 milligr.

December 30th. 9 A.M.: Temperature, 98° F. Slept poorly; coughed more; expectoration easier.

December 31st. 9 A.M.: Temperature, 98.1° F. Expectoration very copious; 5 P.M.: Injection of 0.002 milligr.

January 3, 1891. 3 P.M.: Temperature, 99.2° F.; injection of 0.002 milligr.

January 4th. 9 A.M.: Temperature, 98.2° F.

January 5th. 11 A.M.: Temperature, 98.2° F.

CASE III. *Phthisis Pulmonalis Tuberculosa, First Stage.*—Marcus A——. December 23, 1890. 9 A.M.: Temperature, 98.2° F.

December 25th. 9 A.M.: Temperature, 98.4° F.; 5 P.M.: Injection of 0.006 milligr.; 11 P.M.: Temperature, 98.2° F. Temperature was normal for December 26th, 27th, 28th, 29th, and 30th.

December 31st. 9 A.M.: Temperature, 98.4° F.; 5 P.M.: Injection of 0.01 milligr.

January 1, 1891. 1 A.M.: Temperature, 103° F.; 9 A.M.: Temperature, 100.3° F.; 9 P.M.: Temperature, 101.8° F.

January 2d. 9 A.M.: Temperature, 98° F.

January 3d and 4th. Temperature normal.

January 5th. 5 A.M.: Temperature, 97.4° F.; 9 A.M.: Temperature, 98.4° F.; 9 P.M.: Temperature, 98.2° F.

CASE IV. *Phthisis.*—Emma K— . December 22, 1890. 4.30 P.M.: Temperature, 99.8° F.; injection of 0.002 milligr.; 11 P.M.: Temperature, 99.6° F.

December 23d. 9 A.M.: Temperature, 100° F.; slept well during night and feels excellent; 5 P.M.: Temperature, 100.4° F.; injection of 0.002 milligr.

December 24th. 9 A.M.: Temperature, 99.4° F.

December 25th. 8 A.M.: Temperature, 99.2° F.; 4 P.M.: Temperature, 100.8° F.; injection of 0.002 milligr.

December 26th. 9 A.M.: Temperature, 99.4° F.

December 27th. 8 A.M.: Temperature, 98.4° F.; 5 P.M.: Temperature, 101.4° F.; injection of 0.002 milligr.

December 28th. 9 A.M.: Temperature, 99° F.

December 29th. 8 A.M.: Temperature, 99° F.; 5 P.M.: Temperature, 99.6° F.; injection of 0.002 milligr.

December 30th. 9 A.M.: Temperature, 100.8° F.

December 31st. 9 A.M.: Temperature, 99.2° F.; 5 P.M.: Temperature, 99.4° F.; injection of 0.004 milligr.; 10 P.M.: Temperature, 102.6° F.

January 1, 1891. 10 A.M.: Temperature, 99.8° F.

January 2d. 9 A.M.: Temperature, 99° F.

January 3d. 5 P.M.: Temperature, 100.6° F.; injection of 0.004 milligr.

January 4th. 1 A.M.: Temperature, 99° F.

January 5th. 9 A.M.: Temperature, 99.4° F.; 5 P.M.: Temperature, 100° F.; injection of 0.004 milligr.

CASE V. *Phthisis.*—Emma R——. December 22, 1890. 4 P.M.: Temperature, 102.8° F.; injection of 0.002 milligr.; 11 P.M.: Temperature, 100.8° F.

December 23d. 9 A.M.: Temperature, 100.6° F.; 7 P.M.: Temperature, 101.8° F.; injection of 0.002 milligr.

December 24th. 9 A.M.: Temperature, 100° F.; slight chill.

December 25th. 4 P.M.: Temperature, 102.6° F.; injection of 0.002 milligr.

December 26th. 9 A.M.: Temperature, 101.6° F.

December 27th. 9 A.M.: Temperature, 100° F.; 5 P.M.: Temperature, 102.8° F.; injection of 0.003 milligr.

December 28th. 12 M.: Temperature, 101° F.; slight chill.

December 29th. 9 A.M.: Temperature, 102.2° F.; 5 P.M.: Temperature, 101.4° F.; injection of 0.003 milligr.

December 30th. 9 A.M.: Temperature, 100° F.

December 31st. 9 A.M.: Temperature, 100.4° F.; 5 P.M.: Temperature, 102° F.; injection of 0.003 milligr.

January 1, 1891. 9 A.M.: Temperature, 99° F.

January 3d. 9 A.M.: Temperature, 101.2° F.; 5 P.M.: Temperature, 102° F.; injection of 0.003 milligr.

January 4th. 8 A.M.: Temperature, 99° F.

January 5th. 9 A.M.: Temperature, 99.2° F.; 5 P.M.: Temperature, 100.8° F.; injection of 0.003 milligr.; patient appeared to be quite weak, and it is thought prudent to interrupt treatment for the present.

CASE VI. *Phthisis.*—B. G——, reinoculated January 3, 1891. 4 P.M.: Temperature, 98.3° F.

January 3d. 5 P.M.: Injection of 0.004 milligr.; 11 P.M.: Temperature, 102.8° F.; chill.

January 4th. 1 A.M.: Temperature, 103° F.; perspiration several hours. 9 A.M.: Temperature, 100° F.

January 5th. 9 A.M.: Temperature, 99° F.

CASE VIII. *Phthisis.*—John G——, December 22, 1890. 4 P.M.: Temperature, 98.4° F.; injection of 0.001 milligr.; 11 P.M.: Temperature, 99.4° F.

December 23d. 9 A.M.: Temperature, 100.2° F. Nausea during whole of night. Headache, and complains of dry heat all over body, as if he was burning up inside; 5 P.M.: Injection of 0.012 milligr.

December 24th. 9 A.M.: Temperature, 100.1° F.; 7 P.M.: Temperature, 99° F.

December 25th. 9 A.M.: Temperature, 98.2° F.; slept well during the night; first good night's sleep without assistance (narcotics) in two years, and feels very much better; 4 P.M.: Temperature, 98.4° F.; injection of 0.002 milligr.

December 26th. 9 P.M.: Temperature, 99.2° F.

December 27th. 5 P.M.: Injection of 0.002 milligr.

December 28th. 11 P.M.: Temperature, 97.3° F. Severe attack of dyspnœa.

December 29th. 9 A.M.: Temperature, 98° F. Slept well during night; cough and expectoration easy; does not cough as much as before; 5 P.M.: Injection of 0.002 milligr.

December 31st. 9 A.M.: Temperature, 98° F.; 5 P.M.: Injection of 0.002 milligr.

January 3, 1891. 5 P.M.: Injection of 0.003 milligr.

January 4th. 9 A.M.: Temperature, 98.2° F. Chills and fever, insomnia, and great pain in chest and back all night.

January 5th. 9 A.M.: Temperature, 99° F.

New Cases.

CASE IX. *Lupus Vulgaris.*—Margareta Z——, aged forty-six; married, healthy, strong; lupus vulgaris of right side of face since her fourteenth year. Nodules can be distinctly seen and felt all along periphery. A very characteristic case of lupus.

December 27, 1890. 5 P.M.: Injection of 0.003 milligr.; 10 P.M.: Temperature, 98.8° F.; pulse, 88; no chill.

December 28th, at 2 A.M., general symptoms, heat, nausea, headache, backache, and painful or tired feelings in limbs. Facial lupus swollen, red, and hot. 8 A.M.: Temperature, 99.2° F.; pulse, 94; 1 P.M.: Temperature, 100.2° F.; pulse, 104. Entire lupus surface and 0.5 inch beyond it, red with bluish tinge, hot, elevated, slightly tender, but not painful to pressure of finger; lupous nodules not more prominent, whitish in color (the entire part presenting an erysipelas-like appearance), two submaxillary lymph-glands somewhat enlarged; 11 P.M.: Temperature, 99° F.; pulse, 90.

December 29th. 10 A.M.: Temperature, 98.6° F.; pulse, 80. Passed a comparatively good night. Pulse weak, some nausea, no appetite, feels very tired but is able to be about. Swelling, redness, and elevation of parts somewhat diminished. Heat also much less.

December 30th. Pulse and temperature rather normal, feels generally uncomfortable and weak, no appetite. Local condition about the same as yesterday. More tension along inner, lower, and outer circumference of lupus; crusts and scales forming. No appetite.

December 31st. Same as yesterday. Sensations of trembling, no fever.

January 1, 1891. Appetite returning, general condition improved. Locally, tension greater, crusts thicker, and adhering closely to skin, which still maintains its erysipelatous appearance. No fever.

January 2d. Local condition same as yesterday; no signs of suppuration to be seen, but crust formation goes on as before. Pulse still feels shaky somewhat, but has fair appetite, bowels regular. No fever.

January 3d, 4th, and 5th. Gaining generally, pulse getting strong, many small crusts and scales falling off. Affected part still quite hard and stiff.

CASE X. *Phthisis Tuberculosa, Second Stage.*—Oscar D——, aged twenty-three, married; born in United States; father died, aged forty-five, of phthisis; mother died, aged thirty-eight, of pneumonia; two brothers and one sister living; never had rheumatism. Present illness dates back about two years, when patient first had a cough and slight expectoration; has lost weight since time of first attack.

December 25, 1890. Temperature, 101° F.; pulse, 96. Appetite not very good; bowels regular; features pale and emaciated.

December 26th. 1 P.M.: Temperature, 100.4° F.; injection of 0.001 milligr.; 7 P.M.: Temperature, 102° F.

December 27th. 9 A.M.: Temperature, 98.2° F.; 5 P.M.: Temperature, 102.2° F.; injection of 0.002 milligr.

December 28th. 9 A.M.: Temperature, 98.4° F.

December 29th. 9 A.M.: Temperature, 99.2° F.; 5 P.M.: Temperature, 103.2° F.; injection of 0.003 milligr.

December 30th. 9 A.M.: Temperature, 99° F.

December 31st. 3 P.M.: Temperature, 102° F.; at 5 P.M.: Injection of 0.003 milligr.

January 3, 1891. 9 A.M.: Temperature, 99° F.; 5 P.M.: Temperature, 102° F.; injection of 0.003 milligr.

December 5th. 9 A.M.: Temperature, 101° F.; 4 P.M.: Temperature, 100° F.; injection of 0.003 milligr.

This has been the first case of tubercular ulcer of right upper part of larynx, complicating pulmonary phthisis, treated by injections of the lymph at this hospital. When the patient entered, the ulcer, with congestion of epiglottis, pain, and difficulty in swallowing, etc., could be plainly observed. There was no local change after first injection, but twelve hours after the second increased cough, hoarseness, expectoration, edges of ulcer showing some elevation. Fortunately no symptoms of stenosis of larynx took place. After third injection, on the sixth day of treatment, ulcers begin to look clean, and there is marked amelioration of all above symptoms.

January 5th, improvement in larynx going on, posterior wall of pharynx showing an area of dark-red congestion and swelling which appears to annoy the patient in swallowing.

It is to be noted that the lymph has shown its energetic influence in laryngeal tubercular ulceration, though there is advanced pulmonary phthisis also present. Thus far there is no appreciable change in the condition of the patient's lungs, but he is able to be up and walks about the ward, which he could not do when he came in.

CASE XI. *Phthisis Tuberculosa.*—Charles S——, aged thirty-eight, married; piano-maker; born in Germany; father died aged seventy, cause unknown; mother died aged forty, some female trouble; one brother and one sister living. Present illness dates from December, 1889, when patient had the grippe. Says he has been unable to get rid of a cough which he had at that time.

December 27, 1890. 5 P.M.: Temperature, 100° F.; injection of 0.001 milligr.; 11 P.M.: Temperature, 99.2° F.

December 28th. 9 A.M.: Temperature, 99° F.; expectoration easier; 5 P.M.: Temperature, 101° F.

December 29th. 9 A.M.: Temperature, 98° F.; 5 P.M.: Temperature, 101° F.; injection of 0.002 milligr.

December 30th. 5 P.M.: Temperature, 99° F.

December 31st. 5 P.M.: Temperature, 101.2° F.; injection of 0.003 milligr.

January 1, 1891. 9 A.M.: Temperature, 99° F.; 7 P.M.: Temperature, 101° F.

January 2d. 5 P.M.: Temperature, 101.2° F.

January 3d. 9 A.M.: Temperature, 97.6° F.; 5 P.M.: Temperature 100.1° F.; injection of 0.003 milligr.

January 4th. 9 A.M.: Temperature, 100.8° F.

This case is one of tubercular phthisis in its first stage, the bacilli found in sputum being small and few in number. Unfortunately, the patient had to leave the hospital after the fourth injection, but he reported January 6th for examination to Dr. L. Weber, who has known him for some months, and who recognized a decided improvement in his local and general condition.

CASE XII. *Phthisis Tuberculosa, Second Stage.*—Adolph S——, aged fifty five; optician; married; born in Germany; father died, aged eighty-four, cause unknown; mother died, aged sixty, cause unknown; seven sisters and one brother all living. Has never had rheumatism; had pneumonia in 1877. Present illness dates back about eight years, when it commenced with slight spitting of blood and cough, also night-sweats, which did not last long. Has only had night-sweats at intervals. At pres-

ent has no night-sweats; has lost ten pounds in a year. Temperature, 98.2° F.; pulse, 101. Appetite capricious.

December 29, 1890. 5 P.M.: Temperature, 99° F.; injection of 0.002 milligr.

December 30th. 9 A.M.: Temperature, 98.2° F.; 5 P.M.: 98.2° F.; injection of 0.002 milligr.

December 31st. 9 A.M.: Temperature, 97.4° F.

January 3, 1891. 9 A.M.: Temperature, 98° F.; 5 P.M.: Temperature, 98.3° F.; injection of 0.002 milligr.

January 4th. 9 A.M.: Temperature, 97.4° F.

January 5th. 9 A.M.: Temperature, 98° F.; 4 P.M.: Temperature. 99° F.; injection of 0.002 milligr.

CASE XIII. *Phthisis Tuberculosa, Second Stage.*—Lena L——, aged twenty-eight, single; United States; neck-tie maker; father living, aged fifty eight; mother living, aged fifty-nine; one brother and one sister living. Never had rheumatism. Present illness dates back about three years. Commenced with pain in side and shoulder, cough, expectoration; she has lost about twenty pounds since that time; appetite fair. Bowels regular. Presents on percussion, right side posterior, dulness down to lower angle of scapula. Left side posterior, dulness of left supra-scapular space. Auscultation, right side, posterior bronchial breathing to middle of scapula, some crepitation at that point. Right side anteriorly (percussion) very slight dulness at apex. Left side anterior, more dulness at apex. Auscultation (anteriorly), nothing abnormal on right side. Tubular breathing left side down to third and fourth rib. Has had no fever-temperature for some time prior to entering hospital.

January 4, 1891. 12 M.: Injection of 0.002 milligr.; 5 P.M.: Temperature, 106.4° F.; 7 P.M.: Temperature, 105.6° F.; 9 P.M.: Temperature, 105.4° F.; vomited twice.

January 5th. 9 A.M.: Temperature, 101.2° F.; 4 P.M.: Temperature, 101.8° F.; injection of 0.002 milligr.; 9.30 P.M.: Temperature, 104.4° F.; slight chill; 11.45 P.M.: Temperature, 106.2° F.

January 6th. 2 A.M.: Temperature, 105.2° F.; 8 A.M.: Temperature, 102.4° F.

CASE XIV. *Phthisis Tuberculosa, Second Stage.*—Harry W— —, aged twenty-one; single; clerk; born in America; father, mother, one brother and two sisters living. Received a scalp-wound eighteen months ago, since which time he dates his trouble. Has had a cough since March 18, 1890, has lost thirty pounds in eighteen months. Now complains of cough, expectoration, and night-sweats. Extremely emaciated; appetite not good; bowels irregular. Temperature 102° F.; pulse, 148.

January 3, 1891. 5 P.M.: Temperature, 102° F.; injection of 0.002 milligr; 11 P.M.: Temperature, 101.2° F.

January 4th. 9 A.M.: Temperature, 100° F.

January 5th. 9 A.M.: Temperature, 99° F.; appetite improved, feels much better. 5 P.M.: Temperature, 101° F.; injection of 0.002 milligr.; 9 P.M.: Temperature, 102.4° F.

January 6th. 7 A.M.: Temperature 99° F.

CASE XV. *Phthisis Pulmonalis Tuberculosa, Second Stage.*—George K——, aged thirty-four, sculptor; married; born in Germany; father died aged sixty-five, cause unknown; mother died aged seventy, cause unknown; two brothers living, two dead; one, aged twenty-seven, died of phthisis; one, aged eighteen, was killed. Never had rheumatism. Present illness dates back about eight months, when it commenced with cough and dyspnœa. Has lost eight pounds in six months. Temperature, 99° F.; pulse, 134; appetite very poor; bowels irregular (constipated).

January 5, 1891. 1 P.M.: Temperature, 99° F.; 5 P.M.: Temperature, 100° F.; injection of 0.001 milligr.

January 6th. 1 A.M.: Temperature, 102.8° F.; 7 A.M.: Temperature, 100.2° F. Sputum contains moderate number of bacilli.

CASES AT THE ST. JOSEPH'S ORPHAN ASYLUM.

By EDMUND CHARLES WENDT, M.D.

Services of DRS. EDMUND CHARLES WENDT and F. KAMMERER.

Five new cases have been selected for treatment by lymph at this institution during the past week, making the total number of cases twelve.

In Case VII. the inoculations were discontinued, as there was no reaction after sufficiently large doses had been reached. According to Koch's doctrine, the condition of this little girl should, therefore, be regarded as at present "non-tubercular." This would accord with the fact previously noted, of her recovery from an attack of meningitis, closely simulating the tubercular variety. This child has certainly not been made worse by the inoculations. Her general condition remains entirely unchanged. In the present stage of experience negative evidence may be just as instructive as that of a positive nature.

CASE I., of previous report. *Strong Hereditary Predisposition to Phthisis.*—Slight cough. No expectoration.

January 2, 1891. Seventh inoculation of 0.004 gm. In eleven hours the temperature had risen from normal to 103.4° F. Headache very severe.

January 3d. Temperature remained at about 101° F. all day until 9 P.M., when it became normal.

January 4th. Slight elevation of temperature to 100° F. this afternoon.

January 5th. A few finely crepitant râles are heard for the first time to-day over left upper posterior portion of lung. Eighth inoculation, temperature 99.2° F. at time of injection of 0.0045 gm. Temperature rose to 102° F. in eight hours.

January 6th. Temperature fluctuated between 101.4° and 102.2° F. Considerable malaise.

CASE II., of previous report. *Ozæna Scrophulosa, Lymphadenitis of Neck.*—January 2d. Seventh inoculation at noon, 0.004 gm.; at 9 P.M., temperature 103° F.

January 3d. Temperature normal. Nasal ulcers healing under crust. Eyes clear, the scleral injection has entirely disappeared. Glands on right side of neck appreciably smaller. Right side still quite large.

January 4th. Eighth inoculation of 0.0045 gm., temperature 98.4° F. at time of injection. Reaction to 101.3° F. in seven hours.

January 6th. Ninth inoculation of 0.005 gm. Moderate reaction. The cough which at first was very troublesome is at present subsiding. Lungs negative, except a few bronchial râles.

CASE III., of previous report. *Hip-joint Disease.*—Reinoculations January 2d and 4th up to 0.003 gm. On the first-named date the temperature rose to 104.4° F.; on the second only to 101.4° F., on both occasions about ten hours after injection.

January 6th. The hip-joint became more painful after injection, but the tenderness is now diminishing. There is greater mobility of joint.

CASE IV., of previous report. *Hip-joint Disease.*—A deep-seated enlarged gland in iliac fossa is more tender than before treatment. Joint motions also more painful. No general symptoms. Only one inoculation of 0.002 was given January 3d. Moderate reaction to 100.4° F. Temperature fluctuates between 100° F. and 100.4° F., without having reached the normal level.

CASE V., of previous report. *Tubercular Glands of Neck and Submaxillary Region; Scrofulous Eyes and Nose.*—December 30th. Temperature rose to 102.4° F.

January 2d. Inoculation of 0.0015 gm. Temperature normal. In ten hours rose to 102.6° F.

January 3d. Skin peeling, exactly like in scarlatina.

January 4th. Inoculation of 0.002 gm. Tempera ture did not rise above 100° F.

January 5th. At 9 P.M. temperature 101.0° F., *i.e.*, late reaction.

January 6th. Inoculation of 0.002 gm., *i.e.*, same as

previous dose. No reaction. Much less cough. Harsh breathing at apices, but no râles.

Case VI., of previous report. *Incipient Phthisis.*—January 1st. Fewer crackling râles, expiration harsh and prolonged at both apices. More dulness on right side.

January 2d. Injection of 0.003 gm. Temperature rose to 104.8° F. A rash closely resembling measles appeared all over body, except legs.

January 4th. Rash not yet entirely faded. Temperature did not return to normal before midnight.

January 5th. Injection of 0.0035 gm. at 1 P.M. This was followed by severe symptoms. Intense headache which made her scream out with pain. Constant coughing. Temperature rose to 101.4° F. by 6 P.M.; at 8 P.M. it was 104.4° F.; at 9 P.M., 105.8° F.; at 10.30 P.M., 104.2° F.

January 6th. At 8 A.M., temperature, 101° F. Feeling of prostration, but no collapse. Less cough.

Case VII.—Injections discontinued.

Remarks on New Cases.—The five cases which follow were selected with a view to testing the lymph in a diagnostic way, in children with manifestations of a merely suspicious character, but without positive signs of actual phthisis. So far as diagnosis is concerned, it seems hardly necessary to further multiply cases of readily demonstrable phthisis in which the lymph shows its effects by producing a reaction.

Cases of undoubted consumption will be watched with interest rather from the curative point of view. But it will require months or years before final conclusions as to the efficacy of the lymph in that direction can be reached. If, however, we accept the doctrine that reaction after inoculation means the presence of tubercle, then diagnostic tests can be made in a comparatively brief space of time. Cases responding could remain under treatment until the absence of further reaction would point to the disappearance of tubercular tissue and the establishment of a cure, at least of a temporary nature.

Cases not responding will presumably not be injured by a few injections of Koch's lymph, particularly when the initial doses are kept as low as one-fourth of a milligram, which is the rule I have at present adopted in treating children.

Case VIII. *Phthisical Thorax; Enlarged Cervical Glands; "Suspicious" Breathing at Apices.*- Girl, aged twelve. Family history good. Is thin and delicate; very narrow and flat chest. The breathing at apices is harsh, but there are no râles of any kind. No cough. Chains of enlarged glands of neck, running down to supra-clavicular region.

January 5th. Injection of 0.00025 gm. In six hours temperature rose to 101° F.

January 6th. A.M., temperature, 99.8° F.; 4 P.M., 102° F.

Case IX. *Scrofulous Ulcerations; Fetid Otorrhœa; Cervical Lymphadenitis.*—Girl, aged eight Lungs negative, no cough. Corneal opacities and various scars indicate former morbid processes. At present only slight ulceration of lip and nose. Chains of enlarged glands on either side of neck.

January 5th. Injection of 0.00025 gm. Temperature rose from 98.4° F. to 99.4° F.

January 6th. Injection of 0.0005 gm.

Case X. *Winter Cough, Suspicious Breathing at Right Apex.*—Girl aged eleven. Has coughed every winter for a number of years. Right supra-clavicular space retracted, expiration harsh and prolonged over this region. No râles. Small eater. Slight glandular chains at neck.

January 5th. Injection of 0.00025 gm. Cough increased; pain in chest. In six hours temperature rose to 101° F.

January 6th. Temperature at 11 A.M., 100° F.; at 4 P.M., 100.6° F.

Case XI. *Suspicious Apices; Hereditary Predisposition to Phthisis.*—Girl, aged fifteen. Parents both died of consumption. One sister "delicate." Has coughed for eight years. Small eater. Paralytic thorax. Slight retraction at apices. Supra-clavicular spaces sunken in during inspiration. Very few râles, apparently bronchitic. Pain over chest.

January 5th. Injection of 0.00025 gm. Temperature did not rise above 99.4° F.

January 6th. Temperature remained almost stationary at 100° F. all day.

Case XII. *Aggravated Pigeon-breast; Ulcerative Processes of Lips and Eyes; Large Cervical Glands.*—Boy, aged ten. Thorax deformed in pronounced pigeon-breast way. Thin, pale, delicate-looking. Lungs negative. No cough.

January 5th. Injection of 0.00025 gm. Temperature rose to 100° F. in four hours.

CASES AT ST. LUKE'S HOSPITAL.

Service of Dr. Francis P. Kinnicutt.

The following case is reported in detail as presenting points of interest.

Case VIII. *Tubercular Infiltration of Apex of Left Lung.*—Male, aged twenty-six. Admitted to hospital November 20th. History of impaired digestion and of cough of no longer duration than four weeks.

Physical Examination.—Slightly impaired resonance in first left interspace, without appreciable auscultatory signs of disease. A regular afternoon rise of temperature, varying between 101° and 103⅘° F., present. Numerous tubercle bacilli in sputa. Patient's weight, 96½ pounds. The ordinary treatment employed in the hospital in phthisical cases was ordered.

Physical Examination Immediately Previous to First Inoculation.—Distinctly impaired percussion resonance over first left interspace and in supraspinal fossa, with moist crepitation appreciable in forced inspiration and after cough. Amount of sputa in twenty-four hours, two ounces. Patient's weight 96½ pounds, the same as three weeks previously.

First inoculation, December 13th, 3 P.M., 0.001 gm. The temperature did not rise higher than had occasionally been noted previously; but at the usual time for reaction the patient complained of pain in chest and there was increased cough and wasting. The sputa increased in the subsequent twenty-four hours to four ounces.

Reinoculations were made on the 15th, 19th, 24th, 26th, 29th, January 1st, 3d, and 5th, gradually increased in strength to 0.003 gm. The increase in the amount of sputa following the first inoculations, with its subsequent gradual diminution was as follows: Amount of sputa in twenty-four hours ending 3 P.M. on the 14th, four ounces; 15th, two and one-half ounces; 16th, four ounces; 17th, two and one-quarter ounces; 18th, one and three-quarter ounce; 19th, one ounce; 20th, one ounce; 21st, nine drachms, until on January 4th it was reduced to four drachms.

The effect of the inoculations given in the afternoon, between three and four o'clock, was at first apparently to produce a morning rise of temperature, equal in degree to the usual afternoon fever. With the continuance of the inoculations, the range of temperature gradually declined. Since December 31st, the highest temperature recorded, taken each hour from 7 A.M. until 10 P.M., has not exceeded 100⅕° F. (in mouth), except immediately following inoculation.

In the reaction subsequent to the afternoon inoculation of January 5th the temperature reached 101⅘° F., on the following morning falling to 99⅘° F., in the afternoon.

The patient's weight on December 22d, nine days after the first inoculation, was 99 pounds; on December 30th, 101 pounds. His general condition has improved proportionately.

Physical Examination on January 4th.—No appreciable crepitation either on forced inspiration or after cough over affected area. The percussion-note over the supra-

spinous fossæ is apparently of the same quality. It is slightly impaired in the first left interspace.

The examination of the sputa has been kindly made by Dr. Prudden, throughout the period of inoculations. The number of bacilli in the total daily amount of sputa has been computed. The diurnal variation has been so great and irregular as to preclude any conclusions at present.

Case IX. *Epithelioma of Hand.*—Successive inoculations of 0.001 gm., 0.002 gm., 0.004 gm., and 0.008 gm. have been unaccompanied by any reaction, either local or general.

In Case VI. of the last report, "no improvement in the cutaneous tuberculosis," should read "marked improvement." It consists in the gradual diminution in the induration and the separation of the compact hard mass into separate nodules, the intervening tissue being of a healthy appearance. In this case the local reactions have consisted in no more than a reddening and sensitiveness of the diseased patch, with the development of a moderate hyperæmic areola. There seems to have been a gradual reabsorption of the diseased tissue.

Koch's Treatment of Tuberculosis in Children.—At a meeting of the Gesellschaft der Charité-Aerzte, on December 4, 1890, Professor Henoch presented a communication on the results of the new treatment of tuberculosis as seen in children. He said he had tried it in eleven cases, the clinical observations extending over a period of fourteen days. The ages of the little patients were from two to eleven years, and the diseases from which they suffered were as follows: Pulmonary tuberculosis, 6 cases; lupus, with vertebral caries, 1; caries of the petrous portion of the temporal bone, with chronic peritonitis, 1; tuberculous meningitis in the last stage, 1; scrofulosis, 1, and spina ventosa, 1. He began in all cases with injections of one-tenth of a milligramme. As no reaction followed this dose it was increased to two-tenths, and afterward to three-tenths, this being the smallest dose which produced any reaction. The intensity of the reaction was, however, very variable, and did not appear to bear any definite relation to the age of the patient. Thus some of the younger children (aged from two to three) did not seem to be in any way affected by an injection of three-tenths of a milligramme. This dose made the temperature of a boy, aged eight, with consolidation at the apex, rise to 38.4° C. In two children in whom tuberculosis was suspected, four-tenths of a milligramme sent the temperature up to 38.2° C., and caused great restlessness and prostration. A child two and a half years old, with tuberculous meningitis in the last stage, showed moderate reaction after each injection, three-tenths of a milligramme being first given, and the dose being gradually increased. In a child of the same age, with spina ventosa, a dose of three-tenths of a milligramme caused a reaction which lasted three days, the temperature reaching 39° C., and the respiration being quickened to 60 to 70 per minute, with great prostration and much swelling and redness of the affected part. A boy, aged seven, with pulmonary phthisis, required a dose of eight-tenths of a milligramme before reaction could be produced. In the child, aged four and a half, with caries of the petrous bone and chronic peritonitis, who had undergone scraping of the bone and paracentesis of the abdomen, two injections of four and five-tenths of a milligramme respectively, given at an interval of one day, caused redness about the wound over the petrous bone, and fresh effusion into the peritoneal cavity. The latter disappeared after a few days. In the case of the child with tuberculous meningitis, four injections (of three, four, five, and seven-tenths of a milligramme respectively) were given. The child died, and on *post-mortem* examination (made by Virchow) the brain and meninges were hyperæmic instead of pale, as they usually are from the pressure of the distended lateral ventricles. This shows, according to Henoch, that Koch's treatment is absolutely contra-indicated in tuberculous meningitis, even in its earliest stages.

THE LATEST FROM BERLIN.

[The following from Dr. Graefe, one of our correspondents from Berlin, who has just arrived on his way to his native city, Sandusky, O., will be read with interest by those who have followed his former instructive and graphic epistles.]

To the Editor of the Medical Record.

New York, January 5, 1891.

Sir: Having in my former letters from Berlin given the results of the experiments with the Koch lymph from the beginning of the public demonstrations, with your permission I will bring a record of my observations to the date on which I left. The fact that the lymph will produce a well-defined local and febrile reaction has been verified by hundreds of experiments, but it has also been shown that there are many exceptions to the rule—that is, quite a percentage of cases which are known to be tubercular do not react and others which are not tubercular have in a few cases reacted. Professor Ewald and Dr. Neuhaus have denied, in a meeting of the Berliner Medicinische Gesellschaft, that the changes which are said to take place in the expectorated bacilli can be found in these cases; and Dr. Sonnenburg has, under the direction of Professor Koch, been making operations on the lungs to get rid of the detritus produced by ulcerating cavities and the application of the lymph. In surgical cases Professors von Bergmann and Hahn and Drs. Westphal and Kohler are on record as saying that macroscopically the joints in coxitis and gonitis do not differ materially upon operation from those where no lymph has been used.

The results of examination with the microscope have as yet not been extensive enough to warrant any final conclusions, but those which have been made show the tendency to destruction claimed and the presence of bacilli. Professor von Bergmann has operated upon his cases of joint disease, after a course of Koch injections, when the patients ceased to react upon the repeated application of large doses. In one case of hip disease, in a boy about eleven years of age, there was considerable destruction of the joint, and it was reported that the patient died after an uncomplicated resection. In other cases it was found necessary to remove the diseased tissue with the curette, besides opening up the tubercular cavities in the bones. The Professor said that if the lymph could produce an immunity in the diseased tissue from fresh attacks of the bacilli its value would be great in these cases, but as Koch himself only claims a destruction of tissue, with the setting free of the bacilli contained therein, and points out the danger of reinfection if the bacilli are not removed by operation, the efficacy of the treatment in joint troubles must be considered questionable for the present.

Through the courtesy of Professor Hahn I was permitted to carefully observe all the cases under treatment at the Berliner Allgemeines Krankenhaus.

Profiting by the experiences of others, the Professor operated upon his cases after a number of applications of the lymph and continued the treatment after operation. It seemed in these cases that firm healthy granulations appeared very quickly to take the place of the tubercular tissue removed by the curette, and the fistulæ soon closed, but any local stimulation which would produce a flow of blood to the parts might do the same. In the best case of lupus in this hospital, very superficial nodules on the face and neck, an erythema was produced by the lymph over the whole body, ending in a desquamation which removed all the crusts and skin except at the edge of lupus ulcer. In a case where the Professor had made a resection of the knee four months before and where bacilli were found in the sputum, there was no febrile reaction, but upon opening the joint it was found that it was filled with soft tubercular granulations, but there was no bony union. The case looked like a good one for amputation.

Professor Hahn is recognized as an authority in surgical diseases of the kidney, and in a case where he diagnosed and evacuated three abscesses, though no bacilli could be found in the urine, the patient reacted with a temperature

of 40° F. There have been a number of deaths, one occurring in the hospital at Innsbruck being caused by the extension of the inflammation from about the tubercular tissue in the lungs, producing a double pneumonia. Two deaths occurred at Friederichshain, the patients being children, and a number of cases of collapse with subnormal temperatures have occurred, though the doses at this hospital were always very small. A case at the Koenigiliche Clinic shows that the remedy is a two-edged sword in other ways, for an Englishman who had a very small lupus ulcer on the end of his nose was confined to his bed by a fresh attack of hip disease in a joint that had been affected twenty years before and had not troubled him since.

Czerny reports paralysis produced in a case of caries of the vertebræ and Hahn has a case where paralysis began to disappear after the third injection. There is no doubt but that the lymph will produce an inflammatory action in and about tubercular tissue, but it is not scientific or reasonable to expect more than this, especially as Koch himself assures us that it will not kill the bacilli which he considers the cause of the disease. Its diagnostic value must be great, for its aid in differential diagnosis will be valuable, and in every case it is easier to make an injection than to make a microscopical examination for bacilli.

The therapeutical value, according to experiences up to date, would seem to be limited to superficial tubercular ulcerations, or those which can be made so by the surgeon, except in those early cases which are seldom diagnosed, where the tubercular deposits are so small that they can be destroyed, or stimulated to absorption by the local congestion produced by the lymph, without endangering the system by this absorption.

As to anything more than this, the authorities abroad seem to be agreed that it will be a matter of time to determine if the results attained will be permanent and if the lymph will ever take a place as a therapeutical agent in the future except as mentioned above.

Obituary.

COERT DUBOIS, M.D.,

NEW YORK.

Dr. Dubois died on the night of January 1, 1891. I feel sure that I shall meet the wishes of the many friends of the late Dr. Coert DuBois by giving them an account of his last illness and death. He had reached his forty-third year, was a man of florid complexion and full habit, and of rather sedentary tastes, taking little active exercise and passing much of his time in reading.

About two years ago he had his first attack of gout, and since that time has had a succession of attacks, which were very rapidly leaving their deforming effects upon his feet. About a fortnight before his death cardiac symptoms developed, consisting in shortness of breath, substernal pain, and a sense of slight anxiety about the chest. Although careful auscultation revealed no morbid valvular sounds whatever, it was evident that cardiac trouble of muscular character existed. On the day before his death I proposed a short walk to him, to which he agreed with the half-jesting apology, "You must excuse me if I should drop dead on the way." This was said with a laugh, but before the walk was ended I became convinced that there were good grounds for his fears. His respiration was so much impeded that I persuaded him to return home before he had gone far.

On New Year's night Dr. DuBois went to bed at ten o'clock, feeling quite comfortable to all appearances: in just twelve hours from that time he was found sleeping quietly the sleep of death. He had evidently passed away peacefully, without struggle and without pain.

Born of an ancient and well-known family in Hudson, N. Y., Dr. DuBois graduated in medicine in the College of Physicians and Surgeons of this city in 1872, since which time he has practised his profession here. Of a peculiarly modest and shrinking disposition, he lacked those harder elements of character which fit one for success in the sharp struggle for existence in a metropolis, and he came little into general notice and attracted little attention outside of the circle of close and intimate friends who knew his sterling virtues, appreciated his noble nature, and loved him for his distinguished sincerity and loyalty. His was a character which by its tenderness, its simplicity, and its kindliness shone under the genial light of appreciative friendship, not under that which must be borne upon the journey which leads through contention and rivalry to brilliant success. A character, likewise, which excited the deepest affection, and his loss has caused a profound sorrow in the hearts of those who knew and loved him well. T. Gaillard Thomas, M.D.

HUGH OWEN THOMAS,

LIVERPOOL, ENG.

Hugh Owen Thomas, M.R.C.S. Eng., Member of the Royal College of Medicine and Surgery of Cadiz, Consulting Surgeon of the Iron Ship Builders and Boiler Makers of Great Britain and Ireland, Corresponding Member of the American Orthopedic Association, is dead. He was the author of "Diseases of the Hip, Knee, and Ankle Joints," "Intestinal Diseases and Obstruction," "Principles of the Treatment of Diseased Joints," "The Treatment of Fractures, Dislocations, Diseases, and Deformities of the Bones of the Trunk and of the Upper Extremities," "The Treatment of Fractures of the Lower Jaw," "The Principles of the Treatment of Fractures and Dislocations," "Fractures of the Neck of the Femur," "Nerve Inhibition and its Relation to the Practice of Medicine," "An Argument with the Censor of St. Luke's Hospital, New York." and numerous short papers for the medical journals. Recently, he has been at work putting into condensed form his teaching in bone and joint troubles, having especially in view the illustration of the mechanical means employed by him in the treatment of fractures of the bones and diseases of the joints. He was the inventor of the splints which bear his name for the hip, knee, and ankle, of a collar for cervical Pott's disease, of splints for bow-legs and knock-knee, of a shoe for flat-foot, and another for inflammation of the toe-joints, of an aspirator, of a surgical chair for reducing dislocations of the shoulder- and elbow-joints, of a "gauge halter" for the treatment of diseases and injuries of the elbow-joint, of a brace for drop wrist, of a "talipes lever," of an instrument for reducing otherwise irreducible dislocation of the first phalanx of the thumb, of an intestinal trocar and cannula, of a clamp for fractures of the lower jaw, of a splint for fractures of the shaft of the femur, of a support for stumps after amputation, of a splint for fractures of the patella which relieved the patient from confinement to bed—and of minor instruments and tools almost without number. He introduced a new method of testing for hip disease, of treating fractures of the neck of the femur, of treating delayed union in fractured bones wherever located, namely, by "hammering and damming," he devised and practised novel methods of recent and ancient dislocations at the shoulder, of the acromial end of the clavicle, at the elbow, and at the hip joints. His writings are simply narrations of his new devices and methods and the results thereby obtained, with no little pointed criticism of the methods and views of those who were opposed to him in their surgical work. For thirty-four years he worked without a vacation of even one day; only during the past summer was he prevailed upon by his family to go away for a rest of two days. He knew no social life, but only his patients, his books, and his work room. He was a bitter and unforgiving enemy; a devoted and generous friend. To his friend he gave without stint of money, anything. Of late years few American surgeons have passed through Liverpool without spending at least one day with him, and the little shrunken, energetic form, the spectacles, the cap, and the cigarette will be missed by as many here as there.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON SURGERY.

Stated Meeting, December 8, 1890.

ROBERT ABBE, M.D., CHAIRMAN.

Report of a Case of Pistol shot Wound of the Brain.—DR. JOHN A. WYETH reported the case, that of a boy, eight years of age, who was admitted to Mount Sinai Hospital, October 31st. Half an hour before admission he had been accidentally shot by a pistol, size 22, in the hands of his brother, who stood at a distance of about three feet directly in front of him, the ball striking the forehead. It caused hemorrhage and severe pain, but no other symptoms. On admission the patient was rational, calm, the pulse good. About one inch above the middle of the right eyebrow was a wound with depressed edges. He had walked in without assistance; vision was good in both eyes. He was taken immediately by the house surgeon to the operating-room, where, under antiseptic precautions, and under chloroform anæsthesia, he made an incision through the skin, lifted the periosteum, and removed several loose pieces of bone from the wound. A large spicula of the inner table was found and removed. Fluhrer's probe was introduced into the wound in the brain a quarter of an inch. At this point the patient began to vomit; the operator placed his finger over the wound, and on raising it there was a sudden gush of dark, clotted blood and particles of white brain substance. The wound was then dressed. The patient became very pale toward the conclusion of the operation, the pulse became weak, and stimulants were given hypodermically. The next day the patient vomited a little, the temperature rose slightly; the following day the temperature was normal. The third day there was severe pain over the region of the occipital bone, a little to the left of the median line. An ice-bag was applied. The fourth day, November 3d, the temperature rose to 104.2° F., pulse, 130, respirations, 30; patient crying; during the night he was delirious. November 4th the temperature had fallen to 103° F. The wound was dressed under chloroform, found aseptic. By November 7th the temperature was about normal, the patient comfortable except for some pain in the region of the right ear. On the 8th the wound was again dressed, about half an ounce of blood-clot and broken-down brain substance welled out, also a little blood and serous fluid, but no pus was contained in the discharge. The patient went on to do well, and on the 15th the wound was dressed again, and found clean and healing over. At the last observation the wound had healed, the patient was cheerful, felt no inconvenience from the loss of brain tissue or presence of the bullet in the brain. He would be kept quiet another month to give more time for the ball to become encapsulated.

Dr. Wyeth said he would have been strongly tempted to probe more deeply for the ball had he seen the patient when he first entered, but since the house surgeon had operated and cleaned the wound, he did not afterward feel justified in doing this. Thus far it seemed that the proper thing had been done in letting the bullet alone. He believed the boy would have no further inconvenience from the foreign body. He would like to have had Dr. Girdner's electrical instrument for locating the bullet, which he regarded as excellent for that purpose, and he regretted that the Bell Telephone Company would not allow its manufacture for surgical purposes.

Statistics Showing Results after Removal and Non-removal of Bullets from the Brain.—DR. J. D. BRYANT said his own experience with cases of the kind narrated by Dr. Wyeth was limited to two. Some years ago he had became interested in the statistics bearing on the question of foreign bodies within the cranium, particularly when of the nature of bullets. He investigated every case reported by Mr. Wharton in 1879, he believed over 369, and found that in 216 the injury had been caused entirely by bullets, parts of bullets, or buckshot. In 66 the foreign bodies were removed, in 170 they remained. The result was that the recoveries were seventeen per cent. greater among cases in which the foreign body was removed than among those in which it was permitted to remain. Subsequently one of his college assistants made investigations with regard to the lobe of the brain injured. He was able to collect 140 cases; the exact number in which the foreign body was removed or allowed to remain could not be recalled, but the percentage of recoveries was 13.5 greater where the ball was removed. In quite a number of cases the frontal lobe alone was injured, and among these cases the percentage of recoveries was greater when the foreign body was not removed than when removed. Where the parietal lobe was involved the percentage of recoveries was greater when the foreign body was removed; the same was true with regard to the spheno-temporal lobe. When the cerebellum was injured nearly all cases died, irrespective of treatment.

The two important questions were, Was it advisable to do anything? and if so, How should it be accomplished? He was convinced that an attempt to remove the foreign body was perfectly justifiable, but, of course, within certain limits, each case resting largely upon its own basis.

The first case seen by him was one in which the bullet had entered just above the zigoma on the left side. He introduced a probe, which measured perhaps twice the width of the cranial cavity. It passed through and struck the opposite side of the cranium. He then passed one string over the skull in the same plane as the projecting portion of the probe, another around the forehead, also in the plane of the projecting portion of the probe, the angle where these two strings crossed of necessity passing over the inner end of the probe. There he trephined, and located the end of the probe and also the indentation of the bullet on the bone.

The other case occurred last summer, Dr. Girdner seeing the patient with him and using the telephonic probe. With this instrument there was no difficulty in locating the bullet, but there was difficulty after removing it in catching the bullet with forceps. In fact, he had to abandon attempts to remove the bullet, since it was located near the base and if moved might have led to very serious results. He then suggested to Dr. Girdner the desirability of having a probe made in connection with a bullet forceps. He hoped the idea would be carried out.

A Telephonic Probe Improvised from the Telephone Receiver.—DR. JOHN GIRDNER said the Bell Telephone Company had denied permission to manufacture the telephonic probe, and consequently, owing to circumstances over which he had no control, he, Dr. Girdner, had had a monopoly of the instrument. During the past three years he had tested it in eight cases of gunshot wound of the brain. It acted perfectly; whenever the bullet was touched it gave the signal at once. From his observation in these cases he reached the conclusion that if the bullet lay above the plane of the lateral sinus, although the chances of recovery were not good, yet there was ground for hope; if below this plane, the patient would die. He had seen the brain after autopsy in three of the cases, one having died seven weeks after the injury, one five, and the other three weeks, and in all the bullet had lodged in brain tissue and had travelled. He believed, then, that the ball would always travel when situated in brain tissue. He doubted if it would ever become encysted if located in brain tissue alone and not in the neighborhood of membranes containing fibrous structure.

Speaking, again, of the working of the instrument, he said some had objected to its use, because disliking to pierce the brain with a sharp probe. This objection could be overcome by using a fine probe with a blunt end. One could find the bullet with the telephonic probe, but the difficulty was to extract it. He had told a surgi-

cal instrument-maker of Dr. Bryant's suggestion, and it was thought it could be carried out.

On the statement of Mr. Bell, he had supposed the receiver of the ordinary telephone would not answer in connection with the telephonic probe, but, happily, during some experiments he had found this was not true. With this receiver placed to the ear, and one copper wire connected with the probe in contact with the bullet, and another connected with a metal in the hand of the patient, the metal being of the same nature as that of the probe, the telephonic report would be as perfect as could be desired.

Angio-Lipoma of the Face.—Dr. Willy Meyer presented a boy, aged twelve, on whom he had operated for angio-lipoma, covering almost the entire left side of the face, extending somewhat up on the temporal region and on the ear. There was a small growth at birth which slowly extended until the past year, when it developed rapidly and attained to the size mentioned. It was treated by dividing it into smaller areas at a number of sittings, by the Paquelin cautery, which finally deprived the growth of its blood supply. When the knife was resorted to hemorrhage was further controlled by Esmarch's bandage around the head, and by pressure upon the arteries exerted through the mouth. The growth had not been attacked just below the ear lest the facial nerve should be disturbed. This would have to receive further attention. The result had been quite satisfactory.

Dr. Wyeth remarked that tumors of the lymph-ducts were rare yet it was desirable to treat them in the best way when they did come under observation. He had treated a lymphangiectasis by quilting through the tumor with silk previously soaked in tincture or perchloride of iron, and had also operated upon two cases of simple angiomata in the same way. The method proved exceedingly satisfactory. The tumors were solidified by the iron salt, and could afterward be dissected out without leaving any disfiguring scar. The lymph tumor required no dissection afterward.

The Chairman thought the method mentioned by Dr. Wyeth would be the safest in that part of the tumor near the facial nerve in Dr. Meyer's case. He had himself applied the method in two cases about the shoulder blade, inserting perhaps thirty or forty sutures, which had dried after having been dipped in tincture of iron. They were left in two weeks, then pulled out. No sepsis occurred. Cicatricial lines were formed which cut off the vascular supply.

Three Cases of Pylorectomy for Cancer of the Stomach.—Dr. W. T. Bull read the paper (see p. 39).

Gastro-Enterostomy for Pyloric Stenosis.—Dr. R. F. Weir read the paper (see p. 37).

Dr. Wyeth, being asked to open the discussion, said he had not performed either gastro-enterostomy or pylorectomy, but judging from the improved method of doing the latter operation, as described by Dr. Bull, he thought surgeons would come to give it the preference.

Raw-hide Rings.—Speaking of rings, mention had not been made of raw hide used for this purpose, as proposed by Robinson. He thought this material would be found very valuable, with it the rings could be made of any desired size.

Leans to Pylorectomy.—Dr. Willy Meyer thought that, although he had not performed pylorectomy, there could be no doubt it had a field of usefulness. In selected cases it must save or prolong life, more so than gastro-enterostomy could do. He preferred it to the latter operation. He thought the patient should be given fluid food as early as the third day after the operation.

Operate Early.—Dr. B. F. Curtis thought the future of pylorectomy for cancer would depend largely upon the family physician. In other words, upon how early the diagnosis was made and the patient sent to the surgeon for the operation. So far pylorectomy had been performed almost solely upon desperate cases. The hydrochloric acid test was becoming more and more reliable in diagnosis. Moreover, in doubtful cases an exploratory operation was now quite justifiable, for, although cancer might not be found, yet one of several other conditions might be present which had come to justify an operation. Dr. Bull's third case gave encouragement, even in cases of large tumors which were not adherent, and which were unaccompanied by constitutional infection. He doubted whether the use of rings had tended to shorten the operation of gastro-enterostomy very much. They were not so easily applied as in operations on the intestine alone. The reason why the rings had not shortened the operation was that men were afraid to trust to them without sutures, and the introduction of these prolonged the operation. Gastro-enterostomy had been performed in Berlin in half an hour without rings, by use of interrupted sutures. At the same time, Dr. Weir's statistics on the mortality rate spoke very well for gastro-enterostomy with the rings.

Make Two Operations.—Dr. Curtis thought gastro-enterostomy might well be done first, and at a subsequent operation remove the tumor, for it was in doing this that most blood was lost and the single operation much prolonged.

Dr. Abbe presented some catgut rings two and three inches in diameter. The first line of sutures should be in place before the stomach or intestine was opened. He thought the suggestion to make of gastro-enterostomy and removal of the tumor two operations a valuable one. Regarding the relative merits of pylorectomy and gastro-enterostomy, he thought that if the former required two hours or two hours and a half when performed by men of Billroth's experience, and gave a mortality of fifty per cent., that it could not come into use by surgeons generally. Gastro-enterostomy had a simpler technique and would be possible with any surgeon.

Dr. Kammerer had seen pylorectomy done, and agreed with his colleague, Dr. Meyer, that suturing the divided end of the duodenum to the stomach was to be preferred to gastro-enterostomy as described in Dr. Weir's paper. He thought Senn's plate might be used in pylorectomy after first suturing the upper part of the incision in the stomach. As regards intestinal anastomosis by use of the rings, he had operated in three cases, two for gastro-enterostomy, in all with a fatal result. In the first case the portion of the ring in the stomach was found at autopsy digested, while the portion in the duodenum was intact. This giving way of the ring had caused death. The second patient died of exhaustion on the second day; the ring was found intact, anastomosis complete. The third case was different, being an ileo colostomy for cancer of the cæcum. Post-mortem on the third day: the ring in the ileum was entirely gone, the one in the colon was distorted, thus they had given way and the patient died of peritonitis. He did not think it safe to use the rings without many sutures, else they would snarl. He had prepared them strictly according to Abbe's method. He thought Senn's plates might do better in gastro-enterostomy than the rings.

Dr. Bull said he had taken a somewhat conservative view; he did not advocate pylorectomy in every case of cancer. As had been suggested by Dr. Curtis, cases should be sought early. Physicians who had patients with dyspepsia should examine for cancer or a tumor. The question of attempting the operation in two stages, also suggested by Dr. Curtis, had occurred to him, although he had failed to mention it in his paper. He thought it would be a desirable method, especially in somewhat advanced cases. The catgut rings could be made so they would not twist, and he thought they fulfilled the indications better than any other yet brought forward.

Dr. Weir said he would recede from his position only after the conditions bearing on pylorectomy mentioned in the discussion had been put in use and found an advantage. The weightiest argument which they could bring forward would be to reduce the mortality. Regard-

ing the rings, in placing them especial attention should be given the outer suture on which the traction came. These applied properly, the rings would retain their place until anastomosis had made things secure.

NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, September 24, 1890.

H. P. Loomis, M.D., Vice-President, in the Chair.

Tuberculosis of the Pericardium.—Dr. H. M. Biggs presented some specimens removed from the body of an Italian who died in Bellevue Hospital. He was admitted to the hospital thirty-six hours before death, having at that time a weak and rapid pulse and a distended abdomen, but no history of his illness could be obtained, and he died without any diagnosis having been made. At the autopsy there was found to be tuberculosis of the peritoneum of the usual type. The lungs were adherent on both sides, the adhesions being very extensive, but no tubercular lesions were found in them. The two layers of the pericardium were adherent, and between these two layers were two large and a number of small cheesy masses. The large mass was about 6 ctm. in diameter and 2 ctm. in thickness, and was surrounded by very dense connective tissue. These specimens illustrated an unusual type of tuberculosis. Apparently it was a case of primary tuberculosis of the pericardium in which recovery had seemingly taken place, the tubercles having become surrounded by connective tissue. Dr. Biggs believed that there had also been a pleuritis as well as a pericarditis, and this had given rise to the adhesions. He thought that it was not infrequent that in tuberculosis of the pleura, the tubercles being small, later degenerated and became absorbed, leaving no trace of their presence. Of course it was not possible to prove this view. The bronchial glands in this case were apparently not enlarged.

Biliary Calculus.—Dr. R. G. Freeman presented a biliary calculus, which had been removed from the body of a woman forty-five years of age, who was poorly nourished, and somewhat jaundiced. The specimen nearly filled the gall-bladder, and fairly represented its shape. It was surrounded by a little grayish-looking fluid. This stone, which was five and one-half centimetres long, and two and one-half centimetres in its greatest width, weighed nineteen grammes. On section, it was found to consist chiefly of inspissated bile, and contained two cholesterine stones; one at the neck, one and one-half centimetre, and the other at the fundus, one centimetre in diameter. The cystic duct was impervious.

Dr. Freeman also presented a gall bladder which had been obtained by Dr. Hodenpyl from the body of a man sixty-nine years of age, who died from an injury received while in apparent good health. The autopsy showed endocarditis and interstitial myocarditis, the pneumonia of heart disease, cirrhosis of the liver, interstitial pancreatitis, and chronic diffuse nephritis. The gall-bladder was hard, and its walls greatly thickened. It contained a number of small biliary calculi. The cystic duct was pervious.

Stated Meeting, October 22, 1890.

J. West Roosevelt, M.D., President, in the Chair.

A Case of Pseudo-Leukæmia.—Dr. William P. Northrup presented a report of such a case illustrated by microscope specimens showing a lymph-node and the small bodies found in the spleen and liver. The history covered a period of thirteen months previous to the death of the child, and began with the statement of the nurse, that a lump appeared on the side of the neck about two months before she returned the child to the New York Foundling Asylum for inspection. The patient was aged four years and two months. Examination showed a large mass occupying the right side of the neck, consisting of small, discrete tumors like enlarged glands, which were fairly movable. The overlying skin was normal, and the patient's general health good. During the last year of life the child contracted scarlatina, from which he recovered without nephritis. The tumor steadily increased in size, and six months before death Dr. Poore, the consulting surgeon, performed an exploratory operation. He removed a number of enlarged lymph-nodes which were reserved for examination, but it was found impossible to remove all. The child made a good recovery from the operation, but about this time the patient passed into a decline, which was marked by pronounced anæmia, anorexia, enlargement of numerous other lymph-nodes throughout the body, enlargement of the spleen, and rapid and feeble heart-action, irregular and sudden marked increase in the temperature, accompanied by rapid respirations, sixty or more per minute, and a pulse of two hundred. Physical examination of the lungs remained negative throughout the course of the disease. In the intervals between the exacerbations referred to the child was fairly comfortable, except for a diarrhœa, which grew gradually more severe, and finally became uncontrollable. For two weeks the respiration was croupy, noisy inspiration and expiration, and this was thought to be the result of pressure of the tumor. Death occurred thirteen months after the first symptoms were observed.

At the autopsy the body was found to be emaciated, and a diffused swelling on the right side of the neck extended from the ear to the clavicle, bounded in front by the median line, and behind by the shoulder. An incision into this region showed a collection of glands reaching from the ear to the axilla, and closely resembling a large bunch of grapes. When removed, the mass brought with it the middle third of the clavicle. The lymph-nodes varied but little in size, and each was surrounded by a separate capsule of thickened fibrous tissue. The nodes, on section, were white and glistening, firm, and not cheesy, and were totally unlike tuberculous nodules. Large, isolated lymph-nodes were also found in the left axilla, and in both inguinal regions. The lungs were quite œdematous, and contained fine miliary bodies like tubercle, and scattered areas of consolidation. The bronchial lymph-nodes were neither cheesy nor chalky, and were not tubercular. The liver contained dull-white, stellate, and irregularly shaped masses, varying in size from two to six millimetres, and the lymph-nodes at the portal entrance were large and white, but not cheesy. The spleen was much thicker than normal, irregularly nodulated on its surface, which showed indistinctly, before section, small white bodies. On section, these bodies, which were plainly visible against the dark background of splenic tissue, appeared like irregular masses of fat scattered thickly through the organ. The kidneys were pale, and the markings normal, but no white bodies were present. The stomach and intestines showed only a moderate catarrh. The cervical, axillary, mediastinal, retro-peritoneal, and inguinal lymph-nodes were only moderately enlarged, being about the size of the domestic hickory nut. There was marked anæmia, with moderate œdema of the mediastinum and peritoneum, but none of the legs. The microscopical examination of these lymph-nodes, and of the areas already described in the liver and spleen, showed small round cells in abundance, spindle cells, giant cells, polygonal cells, and new blood-vessels. The blood had been examined, but not properly. So far as the examination went, it showed no very marked change in the relation of the white to the red blood-corpuscles. The structure seen under the microscope seemed to him very much like that of a sarcoma.

Dr. T. Mitchell Prudden spoke of the confused nomenclature of this disease. The term lymphadenitis was particularly objectionable, for the parts principally involved were not the glands, and these tumors in their growth did not produce a glandular structure. He

thought the term adenie was the least objectionable of the many that had been proposed.

Pachymeningitis Interna Hæmorrhagica.— Dr. E. D. Fischer presented a report of such a case, and exhibited the brain. The patient was a man seventy-two years of age, an inmate of the almshouse, and apparantly in good health before the attack. Suddenly one evening, about nine o'clock, he was noticed to be breathing noisily, and on summoning the physician the patient was found to be unconscious, with stertorous respiration, full pulse, unequal pupils, but with no signs of paralysis. There were no other symptoms up to the time of his death, on the following morning. The history seemed to bear out the diagnosis made at that time, of apoplexy, or intracerebral hemorrhage. Dr. Fisher said the autopsy showed all the organs to be healthy with the exception of the brain. On the right side, between the dura mater and pia, there was an effusion of blood, one portion of which was enclosed in a distinct membrane. This looked as though there had been a previous inflammation of the dura, giving rise to an increase of tissue. The effused blood did not seem to come from any other portion of the brain except the new tissue which had formed in the course of a pachymeningitis. The brain showed no pressure on the convolutions at the site of the hemorrhage. The arteries exhibited marked atheromatous degeneration. Although these cases are spoken of in the books as rare, they occurred with comparative frequency in the almshouse, and almost always had a previous history of alcoholism, and frequently also of syphilis. He desired to know whether an examination of the specimen would throw any light upon the character of the hemorrhage, and also how frequently these cases are met with at necropsies. It had been considered that this condition was not uncommon in general paresis of the insane; but he had witnessed many necropsies on such cases, and had not found it very frequently present.

Dr. H. M. Biggs said that his pathological observations included many of those who died in "the cells" of Bellevue Hospital, and among these this condition was by no means infrequent. Since his return to the city this fall he had seen at least three cases of pachymeningitis with cortical hemorrhage and death. The subject was of great practical importance, in view of the advances made in cerebral surgery. It seemed as though there should be some way of diagnosticating cortical from intracerebral hemorrhage. He had frequently seen cases of cortical hemorrhage where an operation would apparently have given relief. It was not only in these cases of pachymeningitis with cortical hemorrhage, but in cases of traumatism with or without fracture of the brain, where there was little or no laceration—and there were a great many of these—that the chances of recovery would be excellent if a correct diagnosis could be made. So far as he had been able to learn the clinical history of these cases, paralysis was not usually present, but when it did exist it was not on the same side as the lesion, and was apparently due to increase of intracranial pressure. On the side opposite to the lesion there was much more likely to be rigidity than paralysis. Coma, when present, was usually profound, and there was generally some irregularity of the pupils.

The President asked Dr. Biggs if in his experience pachymeningitis, with a thin membrane, was not commonly found in cases where there was no particular evidence of hemorrhage—in other words, where the clinical picture was that of apoplexy?

Dr. Biggs replied that he had frequently seen cases where the membrane was of considerable thickness—about one-sixteenth of an inch—in which death occurred without evident determining cause, and where there were no recent hemorrhages or signs of pressure.

The President said that he had observed cases in which there was general disease of the larger cerebral vessels with symptoms of apoplexy, but without hemorrhage, in which sudden death had occurred, sometimes with a convulsive attack on the side which was subsequently paralyzed. He would like to know about the frequency with which such cases occur.

Dr. Fisher said that in Gowers' recent work they are spoken of as rare.

Dr. Holt had met with two cases in children, in about four hundred and fifty autopsies.

Dr. Northrup had reported to the Society five or six cases occurring in children, and in his experience it was quite frequent among asylum children. In answer to a question from Dr. Biggs, as to whether he had found in children the same kind of hemorrhages as in adults, he replied that small hemorrhages were very common, but they occurred in poor, miserable children where there were other causes more likely to produce death. The hemorrhages were usually punctate; and he did not recall having seen a layer thicker than blotting-paper.

Cerebro-spinal Meningitis.—Dr. L. Emmett Holt presented a report of such a case, and Dr. T. Mitchell Prudden presented a report upon the bacteriological examination of the specimens, and the demonstration of the presence of the pneumococcus of meningitis (see p. 43). He also exhibited the cultures and slides showing the pneumococci from the exudate.

Dr. Walter Mendelson said that every observer was impressed with the great disproportion between the nervous symptoms and the extent of the pathological lesions in this disease. He had had an opportunity of witnessing many cases while in the New York Hospital, and he recalled very distinctly what great variations they presented. One case, presenting but few symptoms, would be found on post-mortem examination to exhibit an abundant exudation of pus over the brain and spinal cord; while in another, with marked nervous symptoms, perhaps only a few small patches of exudation here and there would be seen. This forced us to the conclusion that death was not produced by the involvement of the nervous system, so much as from poisoning of the system by a ptomaine, or something of that nature. He asked if in Dr. Holt's case the diagnosis had been made before death.

Dr. Holt replied that he had not seen the case during life, but that it had been observed by a competent house physician, and that meningitis had not even been suspected; and, in fact, there were no nervous symptoms present up to twelve hours before death. He recalled one case which had been repeatedly examined by several others besides himself, and no one of the observers suspected meningitis; yet the autopsy showed that, in addition to the meningitis, there was a well-marked lobar pneumonia, which had caused the child's death. This was in striking contrast with the well-known fact that children with pneumonia often had intense cerebral symptoms without meningitis.

Dr. Biggs reported a case bearing upon the relation of the pneumococcus to meningitis. It was one of double lobar pneumonia and meningitis, which occurred at Bellevue Hospital, and where cultures from the meningeal exudate showed the presence of the Fraenkel's pneumococcus.

Dr. Louis Waldstein inquired particularly concerning the relation of the pulse, respiration, and temperature in Dr. Holt's case, for, as cerebro-spinal meningitis must be looked upon as an infectious disease, due probably to the circulation of some toxic principle in the blood, he wished to know the effect of this poison upon these vital signs.

Regarding the connection of the child's fall with the case, Dr. Fisher believed that it was entirely independent of the subsequent history.

Dr. Prudden, on the other hand, thought it might be a very significant feature, for two factors must be recognized in the production of an acute infectious disease, *i.e.*, the predisposing and the determining causes. The child's fall might have caused a change in the brain which predisposed it to the lodgement and growth of these germs; a charge so slight that it might not have caused any trouble if these germs had not been present.

The President commented upon the great scientific value of a report of a case which had been so well observed, and said that he thought the relation of the bacterium to the disease was the most important element in the case. The connection of these micrococci with two diseases, cerebro-spinal meningitis and pneumonia, was very curious; for the former usually occurred in epidemics, which were frequently complicated by pneumonia, while the latter was constantly present.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

KOCH'S METHOD—PULMONARY HYDATID CYST—THE BRADSHAW LECTURE AT THE COLLEGE OF SURGEONS—SIR SPENCER WELLS ON ANÆSTHETICS AND DRAINAGE—THE RECONSTITUTION OF THE UNIVERSITY OF LONDON.

London, December 20, 1890.

At the last meeting of the Clinical Society, Dr. Pringle and Mr. Malcolm Morris, showed the patient whom they had taken to Berlin to be treated by Koch's method for lupus of the mouth and face. Considerable improvement had taken place. The ulcerating surface on the skin had cicatrized, and the roof of the mouth was much better.

At the same meeting of the society, Dr. Bristowe described a case of hydatid of the lung in which death took place after an exploratory puncture. The patient was a boy of nine, who had enjoyed good health until a fortnight before admission into hospital. The movement of the chest was imperfect on the left side, and there was dulness below and hyperresonance at the upper part. The heart was displaced to the right. The chest measurement, however, was half an inch less on the left side than on the right. Dr. Bristowe concluded that it was a case of pleurisy with effusion, in which the fluid had been absorbed and the lung had not re-expanded. But this hypothesis did not explain the displacement of the heart. Later on, the measurement of the left side was found to have increased an inch and the area of dulness extended down to the base of the chest, though it had not increased upward. It was then decided to perform aspiration, and the trocar was introduced into the left anterior axillary line. Air escaped, but no fluid. Dyspnœa came on, and the patient died in a few minutes. Post mortem, an hydated cyst was found in the lung, and there was a rent in it of some size by which it communicated with the left bronchus. A similar but smaller cyst was found in the right lobe of the liver. The proper treatment for such cases (when diagnosed) would be a free opening—possibly with excision of part of a rib.

Dr. T. D. Acland said he had had a similar case, but his patient recovered. Dr. Wallis mentioned a case which occurred in the Sydney Hospital, where an hydatid cyst of the lung was being aspirated, and the patient suddenly died after a pint and a half of fluid had been slowly drawn off. It was found that the cyst had ruptured into a bronchus and flooded the respiratory tract. Dr. Sidney Phillips said he had seen a similar case, and had collected records of one hundred and thirty-eight cases. Thirteen of these had been operated on, and four of these had died, but not, apparently, from the operation. He concluded that aspiration could be done without great danger, whereas almost all the cases which were left to themselves (without operation) died. His own patient, after being operated on, had coughed up bits of hydatid membrane together with casts of the bronchial tubes.

The Bradshaw lecture for this year, at the College of Surgeons, has just been delivered by Sir Spencer Wells, who selected as his subject, "Modern Abdominal Surgery." He said that all must acknowledge that the contrast of the abdominal surgery of the early years of the Victorian age with what we might call modern abdominal surgery was very remarkable. An occasional operation for strangulated hernia was almost the only piece of abdominal surgical work done in those days. The radical cure of hernia had scarcely begun to attract attention. Astley Cooper had tied the abdominal aorta, but a case of Cæsarean section, when heard of, was talked of as a marvel both by the profession and the public. A gunshot or other penetrating wound of the abdomen was rarely met with in civil practice, and there, with an occasional formation of artificial anus, abdominal surgery might be said to have reached its boundaries. Neither then nor now had operations on the rectum, nor (until quite recently) removal of stone from the bladder, been classed as parts of abdominal surgery. Sir Spencer Wells proceeded to illustrate in greater detail the advances which have been made, by comparing the survey of abdominal surgery given in Syme's "Principles of Surgery" (1856), with that given in modern works. He then proceeded to speak at some length of his own work in the same field. Ovariotomy, he said, was the starting-point in the modern advance of abdominal surgery, and the first extension was to uterine tumors and to partial and complete extirpation of the uterus.

The lecturer expressed very decided opinions as to anæsthetics and as to drainage in abdominal operations. He regards methylene as the most desirable anæsthetic agent, and said that he had been surprised that, in the face of the reports of deaths from chloroform repeated week after week in the newspapers and medical journals, we had not yet had to defend one of our brethren against a verdict of manslaughter, on the ground that an anæsthetic, well known to be dangerous, had been administered when others, equally efficacious, were known to be safer.

Drainage—with or without "flushing" of the peritoneal cavity—was one of the more recent additions to the practice of abdominal surgery. Sir Spencer Wells said that, in his own work, he had from the first looked upon drainage as a practice to be avoided, if possible, and he had only put in a tube when he knew he had not been able to thoroughly cleanse the peritoneum, or thought that some oozing was likely to go on after the incision was closed, or when, some days later, he suspected the presence of fluid in the cavity. He soon, however, began to think that the tube acted as an irritant, and led to the formation of the fluid which it served to remove. At first, when in doubt, he put in a tube; very soon, when in doubt, he left it alone. More than once he was sorry he had not used it, but much more often he was glad. Only twice had he "flushed" or washed out the peritoneal cavity with warm water, and in both cases he regretted having done so. When the bladder or intestine had been wounded by gunshot, or otherwise injured, and urine or fecal matter had escaped into the peritoneal cavity; or when pus had escaped from an abscess, flushing might secure more complete cleansing than simple sponging, and so become valuable. But in a large majority of cases of removal of abdominal tumors, flushing simply added to the amount of sponging required, at the expense of more or less shock or depressing effect, and left the patient no better, perhaps worse, than after careful sponging with soft moist sponges. He had tried several substitutes for sponges, but had not found anything that answered so well. He preserved them from infective pollution in the manner he had repeatedly described. The lecturer then related in detail three cases which had occurred in his own practice, during the present year, and where he had hesitated as to flushing and draining; for the cases seemed to be exactly the cases where at least drainage was imperatively necessary. All three cases recovered admirably, without either flushing or draining.

A new scheme for the reconstitution of the University of London is being prepared by the senate. It is proposed now to admit representatives from certain provincial colleges, and thus probably avert some of the opposition evinced so strongly to the former scheme.

THE LYMPH TREATMENT IN VIENNA.

(From our Special Correspondent.)

VIENNA, December 21, 1890.

SIR: Though the vital interest in Koch's anti-tuberculous injection has by no means lessened, one is conscious of a perceptible diminution in the excitement which attended the earlier days of its public life. The attitude of the Vienna school on this question has been, from the first, extremely cautious. Although not behind other teachers in anxiety to witness and produce the extraordinary effects described by Koch, there have been here none of the enthusiastic utterances which one heard in Berlin. Prussian sentiment is largely controlled by a *Patriotismus*, which is fostered in every way by the shrewd and able young Kaiser. The idea that a blessing had come to mankind through a German led thus to self-gratulations in which the cold counsels of caution received no attention. Now, however, one begins to hear from Berlin itself questionings and adverse criticisms, and it is not surprising that in Vienna doubts should be quite outspoken.

To begin with, does this injection afford any real diagnostic test of the presence of tuberculosis? This is the question which Professor Maydl asks this week, very pointedly, in the *Klinischer Rundschau*. He relates that he has injected five cases of tuberculosis, all of which reacted; two of carcinoma, both of which reacted very markedly, and six healthy devotees of science who have the honor to be his clinical assistants, of whom three reacted briskly and three not at all. Moreover, the reaction in the tuberculous was often not so intense, nor obtained by so small a dose, as in the non-tuberculous.

These experiences are quite in line with those of other observers. Kaposi reports similarly that at first the reaction followed in the tuberculous almost exclusively, but after further trials, that syphilis, sarcoma, and lupus erythematodes reacted. And from Berlin comes also the admission that there are tuberculous cases which do not react and non-tuberculous cases which do.

It is only just, however, to distinguish between the general symptoms of chill, fever, malaise, etc., which those affected by diseases other than tuberculosis, and even healthy persons, may exhibit in an intense degree, and the local reaction, which, so far as I have seen and can learn, is witnessed only in tuberculous foci. Koch, of course, cannot claim a pathognomonic significance for a general reaction which he describes himself as having experienced in his own person. But I have yet to hear that cancer, or syphilis, or other non-tuberculous local affections have presented those changes which so astonish one observing them for the first time that Sir Joseph Lister, in the last *Lancet*, describes himself as utterly amazed thereby.

We are also learning that the injection is not free from danger. Lublinski reports a case in which a temperature of 41° C., with loss of consciousness, ensued upon the injection of 1 milligr. From Berlin come reports of deaths in private practice and in hospitals. Several cases of pulmonary tuberculosis have succumbed here. Professor A. Jarisch gives this week full details of a case of lupus vulgaris, to which he administered 2 milligr., which produced intense general and local reaction, followed by heart-failure, coma, and death thirty-six hours after the injection. It is, therefore, not without reason that the parental Government of Austria has taken steps to prevent indiscriminate experimenting by physicians at large, and to confine the use of the remedy to hospitals and responsible institutions till its limitations and dangers are more exactly ascertained.

And on the greatest thesis of all, the therapeutic value of the discovery, dissenting voices are also making themselves heard. In the Berlin Dermatological Society Köbner boldly stated that not in one of all the great number of cases (some fifty) of lupus whose treatment he had watched for many weeks, had he, even after thirteen to fifteen injections, seen a cure result. And, though as yet the teachers of most reputation in Vienna are unwilling to predicate anything whatsoever regarding the curative power of Koch's lymph (Billroth said, in my hearing, that he might need a year in which to reach any conclusion), nevertheless, the feeling gains ground that decided change for the better in the cases under observation is, at any rate, very slow in coming. One hears, furthermore, of cases made very much worse, locally and generally, by the treatment, and of others in which fresh tuberculous masses and foci had demonstrably developed while the treatment was in progress.

Such facts tend naturally to destroy the complete harmony and confidence so freely expressed a few weeks ago. There cannot be said to be any consensus of opinion. A shrug of the shoulders is the only reply to questions. All feel that time, probably much time, will be needed before any observer will be warranted in formulating an opinion.

No real cure has yet been obtained here in Vienna. Professor Billroth exhibited a case of lupus some few days since in which active ulceration had ceased, and the site of disease had scabbed over. But whether this indicated any real extinction of the tuberculosis, or was more than a certain reactive, curative effort consequent upon the severe local inflammatory process set up by the injections, he felt himself unable to say. The case of lupus in Professor Hebra's wards, described in my last, which seemed after the separation of the superficial sloughs much improved, is now in about the same condition as at first. Professor Kaposi's cases receive their allotment of Kochine from time to time, present typical local and general reactions, but do not yet heal. Of course, in all these cases time enough may not yet have elapsed. In the meanwhile, after one has satisfied curiosity by repeatedly seeing the scarlatinous rash, the swelling, the oozing, and the incrustations, he is content to await the verdict of time, and to proceed with the ordinary routine of work. This in Vienna is wonderfully varied and interesting, and I shall later endeavor to give some account of the opportunities afforded.

TENEMENT-HOUSE SCHOOLS.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Now that the school question is so much in the public mind, I would like to call the attention of the proper authorities, through your esteemed journal, to the existence of certain tenement-house private schools, in the lower part of our city, which are not conducive to the best interests of health and morals, no matter how beneficial they may be to the youthful mind. I refer to the schools for instruction in Hebrew in the Russian-Polish-Jew settlements. These are usually located in the dwelling-rooms of dilapidated rear tenements, where, in the first place, the air is not fit for the family itself to breathe, much less for a crowded roomful of growing boys. Secondly, in the family of the Rabbi, or teacher, contagious diseases frequently occur, and subject not only the whole school to danger, but the community at large. Thirdly, these growing children are placed in the midst of sights, smells, and surroundings which do not tend to elevate them, and are often physically deleterious.

Yours truly,

CHARLES W. ALLEN, M.D.

NEW YORK.

THE TRANSFIGURATION CLINIC.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In the MEDICAL RECORD of December 13th, page 670, I notice the following statement as regards the Transfiguration Clinic: "It is intended only for the poor of the parish."

Permit me to correct this. The Clinic is designed to furnish medical attendance and assistance to all de-

serving poor, whether of the parish or not. While under the direct control of the church, the desire of the promoters is to have the deserving poor receive the same thorough care that would be extended in a physician's office, and not the usual perfunctory attention of a dispensary, necessarily limited by the great number of cases and the limited time at the disposal of the physicians. Another feature of the Clinic is in the supplying of medicines. No medicines are kept on hand, but a prescription like any private prescription is given. This is then taken to a neighboring druggist, with whom an arrangement has been made, who prepares the medicine and sends the bill to the Clinic. By this means remedies applicable to special conditions are secured, and not what is too often the case, Nos. 1, 2, or 3 given because already prepared, or because of a necessary haste from a large attendance. Yours respectfully,

EDWARD QUINTARD.

NEW YORK.

RACIAL IMMUNITY AND INOCULATION.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Your editorial entitled "The Pathology of the Blood," in your December 20th issue, has a special interest for me, as I have given much thought to the same question, and even believe to have gone a step in advance of what is suggested in your article. Instead of transferring the immunity from animals to man, I have thought of an experiment in which I should try to transfer it from man to man. You know how much I am interested in some pathological conditions of the country where I have spent a few years of my life. Your observations give me an opportunity to communicate some ideas which you will perhaps find interesting in connection with the subject in hand. The question of Japanese immunity from scarlet fever has received much attention from European observers. The general opinion is that the disease never existed among Japanese, and was known in the country only among foreign residents as an imported calamity, even then without danger of contagion to the natives. This being the fact, it has occurred to me to make a few experiments in order to find out whether it might not be possible to obtain something reliable in the way of security for Europeans in their own countries, by reinoculating them with the disease after its inoculation into the Japanese. I did not obtain from my first experiments any result worth mentioning. I had, last September, inoculated a Japanese with scarlet-fever germs without communicating the disease, but I shall soon inoculate a half-breed with scarlet-fever virus. If the disease is transmitted at all, we have a right to expect to find it modified, and then it will remain to be seen whether the immunity of the privileged can be in any measure communicated to the non-privileged race.

As the question of the mixing of races is probably closely connected with my present subject, you will perhaps find that the following quotation from Quatrefages ("The Human Species") is not entirely out of place: "The crossing," says the French savant, "although apparently left to chance is in reality unilateral and always directed toward the superior race, and is accomplished under the influence of a real unconscious selection, and the predominance of the white blood is the result of this selection. Sooner or later it will result in the fulfilment of the prophecy of Martin de Moussy. The mixed races will in a great measure return to the superior race. But when brought back to the white type by this circuitous path, and through all these degrees of crossing, they will possess one very great advantage over their European counterpart, they will be acclimatized."

The latter assertion, however, is still considerably open to discussion. It must be admitted, besides, that scarlet fever belongs to that class of diseases whose exact nature is still undetermined. Simmons alone, of foreign observers, it is true, says: "The absence of scarlet fever from Japan may be due to its being mostly below the isothermal line of the disease elsewhere." Thus it appears that there is some authority for assuming that the immunity in question is due to a climatic rather than a racial factor. But, as already stated, this is, in point of authority, all which those who should assume that the immunity in question is due to a climatic rather than a racial factor, have to stand on.

The same author (Quatrefages) says further: "The victory of the superior energies is shown in another very remarkable manner in the crossing of white and black races. The former (the white) is of all races most sensible to malarious influences, the latter (the black) best able to resist them. On this account the black race is almost exempt from yellow fever. The mulatto inherits this double resistance (that is, of the black race to malarious and yellow-fever influences). Dr. Nott assures us that a proportion of one-fourth of black blood is as sure a protection against yellow fever as vaccination against small-pox."

This fact of the resistance of the black race to malarious and yellow-fever influences is admitted in some degree by the profession generally, although not so absolutely as Quatrefages would have it.

However, these limitations being acknowledged, it remains still an undoubted fact that plasmodium malariæ is not readily developed in the blood of the black race (nor is scarlet fever); this may be due to the protection afforded by the skin-pigment against the influences of the climate. It may be also that the blood-corpuscles of the black race are less subject to yellow fever or other disintegration. But let this, too, be considered as an open question. Certainly the difficulties which stand in the way of the acclimatization of certain races in countries which enjoy some natural immunity have much to do with their developing certain diseases. On the other hand, whether the complete acclimation of a new race in a favored country can endow it with the natural immunity possessed by the natives, for instance the European resident with the Japanese immunity from scarlet fever, remains still to be learned.

I hope to resume the line of experimentation of which I have spoken above—I mean the attempt to transfer the natural immunity of one race to the other by blood inoculation—under the most favorable circumstances, for I hope to be in Japan next spring, and to have every element and means of inquiry in my reach.

Yours most faithfully,

ALBERT S. ASHMEAD, M.D.

4 KING STREET, NEW YORK.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from December 28, 1890, to January 3, 1891.

WAKEMAN, WILLIAM J., Captain and Assistant Surgeon. By direction of the Secretary of War, relieved from the further operation of Par. 13, Special Orders No. 254, A. G. O., October 30, 1890, and telegraphic instructions of the 16th instant, from this office, transferring him from Fort Bidwell, Cal., to Fort Huachuca, Ariz. Ter.; and he will return from Reno, Nev., to Fort Bidwell, for further duty at the latter post. S. O. 300, par. 3. A. G. O., Washington, D. C., December 24, 1890.

RAFFERTY, OGDEN, First Lieutenant and Assistant Surgeon. By direction of the Secretary of War, relieved from duty at Fort Sam Houston, Tex., and will report in person to the Commanding Officer at Camp Eagle Pass, Tex., for duty at that station, reporting by letter to the Commanding General, Department of Texas. S. O. 301, par. 2, A. G. O., Washington, D. C., December 26, 1890.

COWDREY, STEVENS G., Major and Surgeon. By direction of the Secretary of War, the extension of leave of absence on account of sickness, granted in Special Orders No. 293, December 16, 1890, from this office, is still further extended one month, on account of sickness. S. O. 302, par. 8, A. G. O., Washington, D. C., December 27, 1890.

LAUDERS, JOHN V., Major and Surgeon, now on duty at Fort Ontario, N. Y. By direction of the Secretary of War, will proceed without delay to Pine Ridge Agency, S. D., and report in person to Brigadier-General John Brooke, for duty in the field, and by letter to the Commanding General, Department of Dakota. S. O. 303, par. 8, A. G. O., Washington, D. C., December 29, 1890.

KILBOURNE, HENRY S., Captain and Assistant Surgeon; GARDNER, EDWIN F., Captain and Assistant Surgeon; and EVENTS, EDWARD, Captain and Assistant Surgeon. By direction of the Secretary of War, the above-named medical officers will proceed without delay to Pine Ridge Agency, S. D., and report in person to the Commanding General, Department of the Platte, for duty in the field. S. O. 304, par. 9, A. G. O., Washington, D. C., December 30, 1890.

Official List of Changes in the Medical Corps of the United States Navy for the week ending January 3, 1891.

PICKRELL, G. McC., Assistant Surgeon. Detached from the Minnesota, and wait orders.

MCCORMICK, A. M. D., Assistant Surgeon. Ordered to the Minnesota, as Dr. Pickrell's relief.

Medical Items.

AN INTERNATIONAL CONGRESS OF MICROBES AT BERLIN.

By GOUVERNEUR M. SMITH, M.D.,
NEW YORK.

MICROSCOPICAL midgets
Were getting the fidgets,
On hearing the horrible news,
That the microbes were slaughtered—
Were starved and were quartered,
'Twas surely a cause for the blues.

Smallest plants and wee bugs
Are not dull, snail-like slugs,
But form a unicity rare;
They commune with each other
(Each kingdom, a brother)
When both have a terrible scare.

So an edict went forth
East and West, South and North,
For the Microbes in Congress to meet
In the place, where a sage
Who is now all the rage,
Thinks such elfins—each one—a dead beat.

A great polyglot crowd
Of wee Liliputs proud,
Assembled in solemn conclave,
And those speaking Phthisis
With warm exegesis,
Besought all their friends to be brave.

Then one spoke in Lupus,
With tones base and croupous,
And said he was "not a bit blue,
I'm not yet like Othello—
And will fight a duello,
With Koch or some one of his crew."

A tenor, in Typhoid,
With gestures quite cycloid,
A tiny Professor,—then said
"On mankind I'll still sup,
I won't give his flesh up,
And of starving I'm not yet afraid."

A speech in harsh Cancer,
By a wise geomancer,
Foretold of a bright coming time,
When no more on the earth
Would there be human birth,
As the microbes were just in their prime.

And with man quite extinct,
It was clearly distinct
The Germs would then evolute gay,
Be lords of creation—
The great innovation,
At which Time was now making a play.

In Cholera lingo,
One said that,—"By jingo
Men eat their choice game with suave grace,
We'll feed on their flesh-pots,
These devilish despots,
Until we have eaten their race."

In co-operation
These dwarfs of each nation
In solemn alliance agreed,
"Fierce aggression, severe,
More and more every year
Till the earth of mankind was quite freed."

They adjourned for a dance
In high glee and joyance,
And whirligiged round like young nymphs:
In Koch's parlor so gay
They danced a whole day
And laughed at his new-fangled lymphs.

Then they wound up the fête
With a feast quite ornate,
Consuming wise doctors, a score,
And drank their own health
In the lymphs, got by stealth,
And wished they had kegs and kegs more.

An Evidence of Cure.—Dr. S. Weir Mitchell, of Philadelphia, is said to have recently received from a female patient the singular present of a cord of white-oak wood, chopped down and sawed up by her own hands. He had recommended to her an active out-door life in the woods for nervous invalidism. She had followed his directions, with results of which the cord of sawed wood was one of the evidences.—*Boston Medical and Surgical Journal.*

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending January 3, 1891.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	21	7
Scarlet fever	135	21
Cerebro-spinal meningitis	1	1
Measles	325	22
Diphtheria	125	28
Small-pox	0	0
Varicella	5	0
Pertussis	5	5
Croup	1	0

Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 39, No. 3.
Whole No. 1054.

NEW YORK, JANUARY 17, 1891.

$5.00 Per Annum.
Single Copies, 10c.

Original Articles.

CHANCRES OF THE FINGERS:

THEIR CLINICAL HISTORY, THEIR COMPLICATING SEPTIC INFECTIONS, AND THEIR DANGER IN SURGICAL AND OBSTETRICAL PRACTICE.[1]

BY R. W. TAYLOR, M.D.,

CLINICAL LECTURER ON VENEREAL DISEASES AT THE COLLEGE OF PHYSICIANS AND SURGEONS, NEW YORK.

I ESTEEM it an honor to be asked to participate in the exercises of this, the first meeting of this new section of the Academy, and I take pleasure in reading this essay under the auspicious circumstances which surround it, and under the presidency of my old-time friend and colleague, Dr. Otis.

It has long been apparent to me that there is need for an essay which shall contain in concise form a systematic description of the lesions produced by syphilitic infection upon the fingers, and to fill this gap in medical literature I have, from time to time, jotted down observations and have recorded the clinical features of such cases over a period of many years. As a result, I think that the clinical divisions which I have made of chancres of the fingers will be found to be correct and sufficiently sharply marked, and that they will aid the reader in many puzzling cases. It must be understood that although the objective features of these chancres differ widely, the underlying pathological process is really the same in all. A consideration of the various modes of finger-infection is naturally called for by the scope of the paper. Next in importance in this study is the rôle played by acute septic infections when complicating finger-chancres, and lastly, the dangers inherent in these lesions when present on the hands of surgeons, obstetricians, and physicians, needs prominent emphasis.

Chancres of the fingers contracted in operations, examinations, and manipulations are not uncommon among obstetricians, surgeons, and midwives, and they are occasionally seen upon the hands of some luckless laymen as the result of their handling or lascivious fondling the infected genitals of some female. They are also observed in dentists, contracted in operations on the mouths of syphilitic patients. They may be seated upon the finger-pulp or around the nail. Syphilitic finger infection has been seen in children and women as a result of picking or dressing the hard chancre of a second party. Finger chancres as a result of a bite by a syphilitic person are also occasionally seen. Chancres of the knuckles and fingers have been known to follow a blow delivered upon the mouth of a person suffering from specific lesions.

These chancres are prone to form at some part of the nail margin, also on the sides and on the pulp of the finger and along its continuity. In the greater number of cases they are due to the infection of a small fissure, a chap, an excoriation or a cut, or to the lodgement of the virus between the nail and its tegumentary fold. Any skin disease of an inflammatory or hyperplastic nature situated upon the fingers or hands may afford a port of entry for syphilitic infection. I recently saw a formidable chancre upon the finger of an eminent surgeon, which resulted from the infection of a spot of eczema, which was caused by the carbolic acid or bichloride solutions used in his operations. The significance of this fact should be remembered by surgeons generally.

My studies and observations convince me that for clinical purposes we may divide chancres of the fingers into four forms, as follows: 1, The scaling papule or tubercle; 2, the excoriated or exulcerated nodule or mass; 3. the fungating chancre; and, 4, the panaritium-form chancre. The water colored drawings which I shall show will materially aid my hearers in a clear understanding of the subject.

1. The Scaling Papule or Tubercle.—This form of digital chancre is the mildest and simplest in character, and is the rarest of all forms observed on these members. It is usually found upon the dorsal surface of a phalanx, and exceptionally it is seated upon the palmar surface or the sides of the fingers. It usually begins on the site of a slight cut, an excoriation, or a fissure. The traumatic lesion may or may not heal and disappear. The chancre begins as a small red spot, which may or may not be scaly. This spot usually grows quite promptly, and in about a fortnight a round or oval papule or papulo-tubercle is formed, having a diameter of half an inch more or less. Thus fully formed the lesion may be of a dull coppery red, occasionally of a bright rosy red, and also of a dull purplish hue. It may thus remain in an indolent slightly scaly state, or it may extend. Whenever the morbid process extends and reaches the wrinkled skin over the joints, fissuration is liable to occur, and this complication may be the starting-point of an ulcerative process which may involve the whole extent of the chancre. In this event this lesion may assume the characters peculiar to the two following forms of digital chancre. Then, again, owing to any traumatism, such as friction, blows, washing, chemical irritants, heat and cold, the chancre may, even when not impinging on joint surfaces, become excoriated and ulcerated. In its uninflamed state the scaling digital chancre runs a chronic, uneventful course, and causes little uneasiness, and not much inconvenience. It thus often happens that its serious nature is not suspected, and frequently the diagnosis is not made until the evidence of lymphatic hyperplasia or of secondary manifestations makes it clear. The scaling papule may exist for weeks, or two or three months, and then it sinks down and disappears, leaving a thickened, more or less purplish or brownish-red pigmented site, which may or may not be the seat of induration or of more or less atrophy. (See Fig. 1.)

2. The Excoriated or Exulcerated Nodule or Mass.—This form of digital chancre may be said to be the most common, and it has well-marked features. It is usually found toward the end of the finger, and to have its origin in some lesion of the nail margin. This may be an excoriation or fissure, a hangnail, or even some slight separation between the skin and the nail inappreciable to the naked eye. The original wound frequently heals, but in some cases it remains open and indolent until the advent of the syphilitic process.

The exulcerated nodule of the fingers usually begins as a small pustule or as a minute, red excoriation of varying shape. This latter lesion increases quite rapidly in area and in height, and is, in its early days, indolent and painless. It may reach only to small size, but usually the hyperplasia is luxuriant. Full development may occupy a period of two to four weeks. We then find a large, fleshy, smooth, granular, or even

[1] Read before the Section on Genito-urinary Surgery of the New York Academy of Medicine, December 9, 1890.

lumpy mass, of a dull red color, sometimes with a purplish tinge, which, to examination, reveals a condition of firmness but not of decided induration. Then, again, in some cases this chancre is rather soft and flabby. The shape of the mass depends on its situation. If seated on one side of the finger it may jut out from one-half to one inch. If both sides of the finger (and in this event the whole margin of the nail is usually the starting-point) are involved, the mass may become as large as a horse-chestnut. It may or may not give to the finger the shape of an Indian club. The course of this chancre depends entirely upon the manner in which it is treated. If kept free from irritation and at rest, it will slowly subside, but if irritated its duration is indefinite. Cases are known in which these chancres have existed for nearly a year. I have seen one such instance. Their chronicity is an important matter, for it carries with it dangers of infection to others.

Under treatment the excoriated nodule gradually becomes the seat of healthy granulations, which wither and contract with or without suppuration (which may be prevented by antiseptic treatment) until a scar or a dense fibrous, perhaps indurated, mass is left. These chancres are, as a rule, followed by more or less deformity. In some cases the nail is wholly destroyed, or the destruction may be partial, and may be replaced by an imperfect new-formation. There is usually more or less destruction of the nail margin, and very often the distal phalanx is left in a distorted or shrivelled state. When originating in the sulcus under the free margin of the nail these chancres may lead to the loss of the tactile pad of the finger, and to a conical, slightly shortened state of the organ. Besides the unsightliness of the deformity, this sequela is to be regretted by reason of its impairment or abolition of the tactile function. In some cases tenderness and pain are complained of for long periods, and mild phlebitis and lymphangitis may for a time be present. Then, again, pain of a very severe and persistent type is often observed during the course of this chancre. (See Figs. 2 and 3.)

3. The Fungating Chancre.—This form of digital chancre is a not uncommon one, and begins in a moist or dry red spot, or a pustule upon the seat of some traumatism, and is most commonly found toward the tip of the finger. Usually the lesion pursues a mild and subacute course for a week or two, being simply a large or small excoriated or exulcerated nodule, as already described. Then generally, as the result of some irritation, but also from conditions inherent in the chancre process, granulations begin to spring up and the surface of the chancre becomes fungating. This appearance may consist in a condition to which we would ordinarily apply the term profuse granulations, or it may be of a decided fungoid character. The granulations are then very large and very long, and it is usually to be distinctly seen that they, after springing from their base, become separated from one another by a distinct but small interval. I have seen them as long as one-eighth of an inch or of one-sixteenth of an inch, and even longer. They look like digitate processes, and resemble, though slightly, in shape, but not in color, the verruca digitata. They may also resemble in some cases condylomata lata which have become vegetating. To the touch these fungating chancres are not very firm or resistent, and they may even be soft, boggy, and compressible. They are usually of a dull bluish or purplish red color, and I have seen them of a pale gray, or of a gray tinged with blue or lilac color. As a rule, no evidence of the existence of blood-vessels is to be seen in their structure. They are most exuberant and fully developed when springing from the pulp of the finger, and may be seen in a lesser size around the nail margin, and even on the sides of the finger. These fungating chancres sometimes run an indolent course, showing little, if any, tendency to healthy action, and then again they are observed to become the seat of rapidly exuberant growth, which shows a persistency to recur even in spite of active cauterization or destruction. Under proper treatment they sink down and wither, and give place to a healthy healing surface. There is commonly more or less deformity left by these chancres. Either the nail is more or less permanently destroyed or a retractile and perhaps fibroid red or purplish-red scar is left which constitutes a permanent deformity. As a chancre progresses toward a cure (and not before this date) the condensation of the tissues may give rise to a condition of firmness, perhaps, resembling induration. In none of these chancres, however, do we find induration such as is observed upon the penis. Pain of a mild, and even of a severe type, is a not uncommon symptom, and it is frequently noted to appear during an exacerbation of the fungoid process.

Phlebitis and lymphangitis of a mild, even decided type, may be an accompaniment of this chancre at some period of its existence. (See Fig. 4.)

4. The Panaritium-like Chancre.—This form of chancre of the finger is not very common, and is seen with rather more frequency than the scaling chancre of the fingers, and less frequently than the ulcerated nodule or the fungating mass.

The panaritium-like chancre of the fingers usually begins in the integument of the nail margin or in a cut, a fissure, a hangnail, or in some simple inflammatory lesion, very often as a pustule. Whatever may have been the medium of wound-infection, it usually heals quite promptly, unless irritated, and in due time after incubation the chancre appears as a red spot, which may or may not be excoriated. This spot soon assumes greater depth of color and of development, and subacute inflammatory infiltration begins, which confines itself pretty closely to the nail sulcus, along which it creeps and develops. The result is that appearances resembling a simple tegumentary felon are soon seen. With the increase of the specific perionychia the distal phalanx begins to swell and the finger becomes distorted. During this period of invasion pain of a mild or severe, deep-seated, and even throbbing character, is often complained of, and the use of the affected finger is impaired or abolished. Usually the swelling increases until the end of the finger presents a bulbous shape like an Indian club, or it may present a shape like a tulip or a violin. The redness, which was at first bright, gradually becomes darker, until in full development the chancre presents a dull brownish-red hue. As the hypertrophic process increases ulceration is usually seen around the nail, to which it may be limited in a crescent-like form. This ulceration usually has an unhealthy, foul surface, secretes a copious, fetid pus, and may be covered in whole or in part with a brownish black or green necrotic film or membrane. The nail rapidly becomes darker, until it is detached as a black looking, foul mass, under which the ulceration has extended. At this time the pain is very severe, the swelling very considerable, and the consistence of the hypertrophied phalanx very firm, and sometimes even hard. There is nothing akin in it, however, to cartilaginous induration. There may or may not be redness in the skin of the second and third phalanges. In this state of full development this panaris-like chancre may remain for a long period without any tendency to heal, and sometimes without any evidence of exacerbation. Under proper treatment, however, it will slowly subside, and in the course of several months the end of the finger may be nearly normal in size. Sometimes it becomes much atrophied and pointed, and the seat of an irregular cicatrix. In most cases the nail is impaired, sometimes wholly destroyed, and sometimes only partially so. Tactile sense and prehension are more or less impaired, and an exquisite tenderness may remain in the member for a long time. This form of finger-chancre may be mistaken for non-specific panaritium, and for the early and later perionychiæ of acquired syphilis. In hereditary syphilis a perionychia presenting points of resemblance to this form of chancre is occasionally seen. Accompanying the

panaritium-like chancre a mild or severe phlebitis or lymphangitis may occur. In all cases a doubt in diagnosis can soon be cleared up by the examination of the epitrochlear and axillary ganglia, which commonly within two weeks take on characteristic syphilitic swelling and induration. One finger is usually affected by this form of chancre, sometimes two, and very rarely more.

Occasionally the chancre is limited to one-half of the nail margin, as shown in the water-color drawing I now show. The epitrochlear and axillary ganglia are always very much enlarged and hardened. In some rare cases the indurating process seems to skip past the epitrochlear ganglia, and to expend its intensity upon the axillary group. Fig. 5 shows a chancre which involved the whole nail margin, while in Fig. 6 only one half of the nail is seen to be affected.

Phlebitis and lymphangitis of a mild form and short duration, attended with a sense of sickness, malaise, and elevation of the temperature, are not uncommon concomitants of digital chancres. These inflammatory phenomena are usually the result of irritation or bruises of the fingers, or of dirty particles which have become lodged upon the chancre.

In exceptional instances true pyæmic and septic infection may complicate the course of digital chancres, as shown by the following cases:

Case I.—An Irishman, a handler of hides, aged twenty-two, a man of dissipated habits, but strong and robust, came under my observation in 1870, with a chancre of the right index-finger. When first seen this lesion was simply a small exulcerated nodule situated on the left side of the nail at its base. A carbolic ointment was ordered. In two weeks, during which the man kept busily at work and applied the ointment imperfectly and irregularly, he returned, and I found a large, fungating chancre of bluish-red color, which secreted a thin, sanious, and fetid pus. He was urged to leave off work and to apply a lotion regularly and liberally. This he failed to do, and went off upon a drunken spree. At the end of this period, which occupied a week, the chancre remained stationary, and he returned to his work. When next seen, some days later, this man presented the following symptoms: He was suffering from recurring chills of a severe type; his pulse was rapid and small; he complained of pains in the legs and head; showed evidences of prostration and a pinched, dejected look; had no appetite, and suffered from diarrhœa. He had been sick in this way four days, his illness being ushered in with severe pain in the affected finger, running up the forearm and arm, a chill of marked severity lasting an hour, and great malaise. I found the chancre of the finger to present a very unhealthy appearance; its surface was much swollen, covered with a dirty necrotic tissue, and a thin, fetid pus. The whole finger was of a dusky red color and much swollen, and evidences of phlebitis and lymphangitis could be seen in the red lines running up the inside of the forearm. For a week the temperature ranged between 102° and 105° F., with febrile symptoms in full accord. The local treatment consisted in thorough cleansing of the chancre, long continued immersion of the hand in very hot and mild alkaline water, and the application of a carbolic solution on lint. Internally quinine, alcohol, and nutritious fluid food were given. Under this medication, local and general, the fever began to abate on the seventeenth day, and the man entered upon convalescence. He was away from his business for twenty-four days, during which the condition just described took place. I feared that suppuration would occur in the epitrochlear and axillary ganglia, but though there was very great swelling in them, it, in course of time, subsided. One month after recovery from this pyæmic attack, secondary syphilitic symptoms of a severe type appeared. My calculation made at the time was that the acute infective process delayed the evolution of the symptoms of the chronic infection, namely, syphilis, rather more than thirty days. The subsequent course of the syphilis was severe.

In this case the existence of syphilis was quite clear at the first examination, for the reason that there was a distinct history of swelling and ulceration of the finger of a subacute type, which, to anyone versed in these matters, was clear evidence of syphilis.

Case II.—In 1875 I was asked by a medical friend to see a medical student, aged twenty-one, of thin and wiry build, and of good habits, who was suffering from a painful ulcer of the left index-finger, and symptoms which he regarded as indicative of typhoid fever. I learned that the digital ulcer began in an insignificant manner about four weeks previously, and that a week before my visit it had become much inflamed and very painful, and that the finger had swollen to a very large size. Soon after this local disturbance the young man had a severe chill, which was followed by a profuse sweat. Then such adynamic symptoms as utter prostration, rapid and small pulse, great dyspnœa, total anorexia, and diarrhœa, soon supervened. In this state chills of short and long duration, mild and severe, were complained of, and the subsequent sweat after each left the patient worse off than before. The temperature ranged between 102° and 105⅗° F., the tongue became dry and cracked, and there was at intervals a mild delirium. This state of affairs lasted ten days, toward the end of which the symptoms slowly ameliorated. The chills first ceased, but the fever kept on for some days afterward. During this time a large abscess formed, just over the left epitrochlear region and in the axilla. They, when incised, gave issue to an abundant, unhealthy, curdy pus. The local treatment of the diseased finger consisted in long-continued immersions in very hot carbolic acid water, the careful cleansing of the chancre, and the application of iodoform. In this case the evolution of the secondary symptoms was delayed, according to my calculation, fully forty days.

No reason could be assigned by the patient for the onset of the inflammatory symptoms in the chancre, except perhaps, an undue use of the finger. My impression at the time was that the chancre became irritated owing to the want of regular and careful dressings. In this case, also, there could be no doubt from the beginning that we had to do with a case of syphilis complicated with pyæmia.

Case III.—A woman, thin and pale, and of feeble texture, contracted a chancre on her right index-finger from dressing the penis of her lover, who was suffering from a phagedenic hard chancre. The infection-wound took place upon a deep scratch made with a pin along the side of the nail. The first symptoms complained of were throbbing pain and tension in the affected part. Within twenty-four hours great swelling, heat, and redness were noticeable, and a marked condition of malaise and dejection supervened. Then it was noted that a spot the size of a pea at the side of the finger was of a dull, bluish-black color, and the seat of profuse, flabby, and dry granulations. The patient had a severe chill, which was not followed by a sweat, but by a high fever. This ranged between 102° and 105° F. for several days, and was accompanied with great prostration, dyspnœa, utter want of appetite, and the usual concomitants of a typhoid state. Within thirty-six hours after the invasion of the finger the hand and arm swelled to an enormous extent, became very red, tense, and painful, and all along it deep red lines were to be seen. The patient suffered much agony and presented an anxious, drawn look. She was very sleepless, and prone to fall into little periods of mild delirium. In this state she remained for ten days when improvement was noted. The swelling and pain in the arm became less severe and marked, and the temperature fell to nearly the normal standard. Ten days more elapsed before the patient could leave her bed, and then she was weak and much thinner than before the attack. At this time the wound on the finger-tip, which had been large, fungoid, and exuberant, looked like a little thickened excoriation, and the epitrochlear and axillary ganglia were very much enlarged. Gradually the finger wound developed into a typical exulcerated chancre, which was

followed by general syphilitic manifestations about eighty-six days after the date of the wound-infection.

In the days when these cases were observed we knew nothing of surgical bacteriology, and I was much puzzled by their peculiar course and symptomatology. To-day their nature, and that of their complications, are tolerably clear.

In Cases I. and II. there can be no doubt that pyæmic infection occurred in the finger-lesion of the chronic infection, namely, syphilis. It is probable that the agent of infection was the streptococcus pyogenes of Rosenbach. Where the first patient picked up this micro-organism I cannot say. He handled wet hides and was careless and dirty in his habits, and was given up to a debauch for fully a week. In some way "lumps of dirt," as Lister terms them, must have gained access to the diseased tissue forming his chancre.

In the second case no history of contamination could be obtained, but the origin of the pyæmia was undoubtedly somewhat like that of Case I. In these cases the micrococci found pabulum, or a culture-ground as we may say, in the diseased tissues of the finger. Multiplying, then, in vast numbers, they permeated the small veins, there produced an infective phlebitis and a thrombus, which, in their turn, by exuberant growth and development, produced the secretions and microbes which, carried by the vessels, poisoned the whole system. The radical antiseptic treatment of the finger-wounds undoubtedly led to the destruction of the pyæmic foci and the ultimate rescue of the patients. I need not emphasize the course of the pyæmia in these cases, for it was typical in both, and as such cases go it may be said to have been tolerably mild. The patients were confined to bed from two to four weeks.

The interesting fact is brought out by these cases that the evolution of the syphilis was considerably delayed, even to the extent of about one month in the first case, and forty days in the second. This delay in the evolution of secondary syphilis has been noted many times as being caused by intercurrent acute diseases.

The history of the third case is interesting and peculiar. In this case there was no pre-existent chancre, but syphilitic infection and septic infection took place simultaneously through the entry of the secretion of a phagedenic chancre into a minute healthy wound on the woman's finger. In this case the symptom-complex points to a mild form of septicæmia, for there were no chills after the prodromal one. The septic infection began at once, and its effects were well-marked within thirty-six hours. The evidences of general syphilitic infection were rather slow in appearing, and it is fair to assume that they were delayed about a month by reason of the acute septic infection. It is important for surgeons to bear in mind the possibility of a double infection in cases of wounds of the fingers or hands.

I once saw a male patient, a sampler of sugar, aged twenty-eight, who, while suffering from a fungoid digital chancre, had for a day or two great pain, redness, and œdema of the arm, with high temperature and malaise. Under treatment these complications rapidly subsided. The history of this case would seemingly go to show that in digital chancre we may have mild pyæmic attacks, while the preceding ones prove that we may have very severe infection. The possibility of complications so severe as those just detailed should never be forgotten, and surgeons, in treating patients suffering from digital chancres, should be careful to employ thorough antisepsis, and to see that no particle of dust or dirt or foul secretion be allowed to reach these lesions of the fingers.

It is very probable that the softness and sponginess of the tissues so often found in chancres of the fingers is the underlying cause of septic infection. In most instances the syphilitic chancre is firm, and under it a compact, hard œdema is situated. In these cases there is little, if any, chance for the invasion of these pyogenic and septic microbes, for a barrier is interposed which contracts the small vessels and lymphatic spaces, and limits the malign influence to the tissues above them. It is undoubtedly this hard œdema underneath hard chancres, upon the penis and vulva which prevent, in many cases, intercurrent general microbic infection. The superficial, and even deep destructive, effect of micro-organisms upon syphilitic lesions is daily seen, not only on the skin but on the mucous membranes. Therefore I am led to think that the peculiarity of the tissues of the fingers and the want of closeness and compactness of structure of the initial neoplasm of digital chancres (which quite often occurs) are the essential causes which offer a possibility of pyæmic or septic infection.

The fact of the not uncommon occurrence of chancres upon the fingers of surgeons, physicians, and midwives suggests to us the danger of syphilitic infection to their patients. Cases of syphilis transmitted by finger-infection in medical and obstetrical practice are sufficiently common and well attested to warrant us in a consideration of the question of prophylaxis. This subject was prominently brought forward last year by a certain Dr. S.,[1] in a letter, in which he says that it is desirable to know how far physicians, general and special surgeons, and obstetricians, themselves the subjects of syphilis, may be dangerous to their patients, and in how far they should be restricted in their practice. Dr. S. claims that the dangers of syphilitic transmission from an infected medical man to his patients are greater than in married life, the husband or the wife being syphilitic. In reply to this letter,[2] Neisser published a short address, in which he emphasized the main points of danger in a clear manner.

It is evident that surgeons afflicted with syphilis are much less liable to infect their patients than obstetricians, particularly in these days of thorough asepsis and antisepsis. With the care which surgeons give to the perfect cleansing of their hands before operations, and with the fear in their minds (which is quite widely spread) of receiving syphilitic or other infection through any lesion of continuity, in the event of their having a chafe, a fissure, or any suspicious sore or hyperplastic papule, nodule, or mass on the fingers, will, I think, cause them either to give up the operation, or take measures for the thorough protection of their fingers. Then, again, the profuseness with which antiseptics, fluid and pulverulent, are used in operations, will undoubtedly do much to prevent syphilitic infection. Still, I may add that I have often wondered when physicians, afflicted with syphilitic finger-infection, have told me of their multifarious ministrations to their patients, tendered while yet ignorant of the nature of their own disease, why it was that so few cases of such professional infection occurred. Neisser says that he knows of four infected assistants who kept on with their professional work notwithstanding their finger-chancres.

The period of greatest danger from finger infection by medical men is in the early days of the chancre, when it is small (like a chafe, a fissure, a mildly excoriated papule, or seemingly like a simple but troublesome hangnail, or a mild form of panaritium), and when its nature is not suspected. In this period (as a general rule) it is very little, if at all painful; it has not an angry or an inflamed look, but, on the contrary, presents a benign, even insignificant, appearance. In this stage, luckily, its secretion is very scant, and to this fact, therefore, many instances of immunity are undoubtedly due. But even under these circumstances the tissue-elements may be deposited from the infected finger upon a wound in the patient, and syphilis may ensue. Then, again, these seemingly mild lesions may give issue to blood, which, if deposited upon an excoriated, exulcerated, or cut surface, may convey the syphilitic poison. Though syphilitic blood infection is less prompt, active, and constant than infection from primary and secondary secretions and lesions, its danger should always be remembered, feared, and provided against.

[1] Anfrage an die Herren Fachgenossen, Centralblatt für Chirurgie, No. 13, 1889.

[2] Dürfen Syphilitisch-inficirte Aerzte ihre ärztliche Thätigkeit fortsetzen, Centralblatt für Chirurgie, No. 39, 1889.

Chancres of the fingers in professional men usually cease to be dangerous to their clients when they have reached their full development. When they have come to present the features depicted in the clinical part of this essay (if not before), they cause so much pain, so much anxiety, and even horror, that even if they are not considered to be of syphilitic nature they are recognized as formidable lesions and dangerous to others. I have often wondered why many physicians and surgeons who have consulted me have remained so long in ignorance of the syphilitic nature of a finger chancre, and why it has not been recognized by their fellow-practitioners, to whom they have applied for diagnosis and treatment. I think that it will be generally found when a surgeon, physician, or obstetrician, or dentist, has a chronic, indolent aphlegmasic ulcer or nodule on his finger, particularly when near its tip, the lesion is, at least in the majority of instances, the forerunner of syphilis, especially if it has a bluish fungoid appearance, or the look of a piece of raw beef stuck on the finger end. Yet very many think that they are the victims of some obscure form of blood-poisoning, or of tuberculous infection. I have found many physicians whom it was very difficult to convince that they had syphilis. Then, again, I have sometimes observed that when a diagnosis of syphilis has been made in his case, the medical man often makes a tremendous hue and cry. It is this over-anxiety, I have no doubt, which some years ago led to the adoption of a quite prevalent opinion that professional syphilis was particularly severe and intractable in its course. Medical men make bad patients in any form of sickness.

The foregoing facts indicate very forcibly the duty of the physician and obstetrician to refrain from touching his patients, performing operations, making examinations, or giving aid in childbirth if he has any lesion, however mild, upon his finger or fingers.

Among the poorer classes midwives are very extensively employed in childbed, and these women, from ignorance and cupidity, have been known to cause many cases of syphilis. It is difficult to devise means for the prevention of this terrible accident, for these women are not subject to registration and surveillance, and they cannot well be reached by law. They, if brought to bay, contend that they do not presume to undertake medical duties and practice, but that they act merely as nurses. If found attending a case of labor they have been known to claim that they were not acting on their own responsibility, but that they were temporizing and awaiting the arrival of a belated, or absent, or hard-to-find physician. Of late years I have not heard of a case of syphilitic infection transmitted by a midwife, but such a method is well known in Europe to have occurred several times.

The following sad history will carry with it a painful lesson :

A number of years ago I had under observation a whole family who became infected with syphilis through the finger of a German midwife, who had a chancre on her right index-finger. This family consisted of the father and mother and four children, three girls and one boy. The wife had severe ulcerative lesions in the region of the fourchette, and the husband had three chancres of the prepuce and glans, while both suffered severely from buccal mucous patches and condylomata ani. The eldest girl, aged twelve, had a large chancre of the left cheek; the second girl, aged ten, a chancre of the lower lip; and the third child, a boy, had a panaritium-like chancre of the left index-finger. The fourth child was a baby girl, who had a very superficial parchment-like chancre of the tip of the tongue. In these cases I convinced myself that the mother was infected by the midwife, the father received the infection from his wife, who, by kissing, infected the first, second, and fourth children, while the third child, the boy, infected himself by picking with his finger the chancre on the cheek of his eldest sister. It has never been my duty to present so pitiable a spectacle to a medical class as that offered by that afflicted family. At the time of observation, Bardinet's[1] cases in Brive, France, were fresh in my mind, and I suspected the midwife to be the cause of infection. After much trouble I found this woman, in the person of an obese and elderly German, who had on the last phalanx of right index-finger a purplish fibroid cicatrix of the size of a silver three-cent piece, and undoubted evidences of a declining miliary papular syphilide. From facts which I gathered I was led to believe that this woman had carried the infection into two other families by contaminating the wives in childbed. These infected midwives being ignorant, know nothing o syphilis or the dangers of its transmission by means o finger-infection. Physicians, however, should clearly understand the *modus operandi* of this form of professiona infection, in order that they may avert it or ameliorate its sad consequences.

THE TREATMENT OF PULMONARY TUBERCULOSIS BY KOCH'S METHOD.

By C. E. QUIMBY, M.D.,

NEW YORK.

WERE the present paper simply the outcome of a ten days' sojourn in Berlin, I should hardly presume to offer it for general consideration. But I have desired for

[1] In this connection the following case is very interesting: Bardinet (Syphilis communiquée par le Doigt d'une Sage-femme. Annales d'Hygiène pub. et Méd. légale. July, 1874) was appointed by the local authorities to investigate the causes and nature of an epidemic which appeared in the town of Brive, France. He ascertained that those affected were parturient women (or their relatives, such as husbands and children) who had been attended at childbirth by a certain midwife. Upon investigation and examination of her it was found that in February, 1873, she had an ulcer on the border of the nail of the right middle finger, which was afterward followed by syphilitic manifestations. The syphilitic chancre upon the finger was very obstinate to treatment, and continued in an ulcerated condition until the following October. In the meantime she had attended, according to her statement, fully fifty women in confinement. It was only determined that fourteen women were infected by her with syphilis, though it was suspected that others were likewise contaminated, and that they concealed the matter from motives of shame and secrecy. The following are the facts: Between February 28th and March 15th she cared for three women who became syphilitic. Between the latter date and June 28th, though she attended a number of women, no cases of syphilis could be ascertained to have occurred. From this date until October she attended fifteen more women, of whom only one escaped syphilis. It is suspected that in the interval of six weeks during which no cases of infection are noted, such did really occur, but that they were hushed up; again, it was thought that perhaps, during this period, or a part of it, the digital ulcer did not yield an infecting secretion owing to the applications which were then made. Eight of the husbands of the fourteen women who thus became syphilitic were also infected, as well as nine infants of the latter, four of whom died of syphilis. Thus we certainly have a total of thirty one cases of syphilis, out of which there were four deaths, caused by one woman who had a chancre on her finger. It is thought, however, that the actual number was nearly one hundred. The fact of the infection having originated from the woman's finger was very clearly established, but in the cases of several of the children it must be confessed that the syphilis underwent a rather early evolution.

The conduct of this midwife cannot be commented upon too severely, for she evidently knew of the serious nature of the disease which she was communicating, yet her cupidity incited her to continue her ministrations. She was tried, found guilty, and sentenced to a mild fine and two years' imprisonment.

In the discussion of Neisser's paper before mentioned, Fritsch stated that he had known eight midwifery assistants (young medical men) who suffered from digital chancres, and that he knew of one woman who was infected with syphilis by one of them.

As an historical fact it may be of interest to mention that in 1727 an epidemic of syphilis broke out in the little village of Sainte Euphémie, in the department of Drôme, France. This epidemic has been chronicled in history by Jean Bayer under the title "Mal de Sainte Euphémie." This scourge, it is stated, had its origin in a pustule upon the right index-finger of a midwife. During four months this lesion, accompanied with painful swelling of the arm and a generalized rash, existed, and all the time the woman exercised her calling. More than fifty women, her immediate victims, were infected upon the genitals, and from them the disease spread to their husbands and children. Though the course of the syphilis in all the cases was very severe, there is no mention of a fatal result.

Brumbilla (Caso importante de infectione sifilitica. Gazetta Medica Italiana, Lombardia, No. 24, 1877, page 231) reports the case of a midwife who became infected upon the left thumb, and had very severe generalized syphilitic symptoms and manifestations. She was treated and promptly cured, and there is no evidence that she, on her part, communicated the disease to anyone else.

This observation is rendered the more interesting by the fact that confrontation was accomplished, and the person from whom the midwife received the infection was found to have four ulcerated papules of the vulva and anus, and bi-inguinal adenopathy.

some time to call attention to a few general principles in the treatment of chronic disease which appear to have been very largely forgotten or neglected in pulmonary therapeutics. The one absorbing question of the day seems to afford an opportunity for a specific illustration.

The medical profession stands to-day where it has often stood before, ready to make new battle with an old and ever-victorious enemy. It seizes the freshly forged sword, and throwing aside all other weapons, nor heeding the warning of its Vulcan, rushes to the fray with all the eagerness of youth, but less of that moderation which becomes experience and should belong even to defeated adolescence. If one may prognosticate for enthusiastic America from so-called conservative Germany, there are still other and more humiliating defeats in store for the future.

No one who has studied this treatment in the hospitals of Berlin can deny that some outlined plan of treatment other than can be gathered from the reports of cases is highly desirable before this remedy reaches the general practitioner. I disclaim at the outset any desire to theorize. My purpose is simply to arrange in a plan of treatment the logical deductions from the pathology of pulmonary tuberculosis and Dr. Koch's own assertions as to the action of this remedy, and to point out that inoculations alone, without adjuvant measures, can never determine the full value of this substance. The farmer who owns a pair of horses does not leave his load of golden grain to rot in the field because each horse, when harnessed alone, has failed to move it. Experimental tests are justified, even in hospital practice, only when we have no data from which to deduce rules of practice. In general practice we are never justified in using a drug until we have such deductions. As a basis of argument in the present case, then, I desire to propose the following as therapeutic axioms:

I. In the treatment of chronic disease every measure which can produce or assist in the production of a desirable result, however small, must always be employed, unless antagonistic to a greater good.

II. Every remedy employed should be used upon the basis of its physiological action, so far as known, as applied to the pathology of the disease, with a definite purpose to accomplish definite results, and these results should be the measure of its dose and continuance.

III. Failure to obtain evident results in a given case, from a given remedy which is known to be valuable, does not justify its discontinuance unless it is working evident harm.

For completeness, let me state briefly the problem which demands solution, and the methods by which it may be solved. Without claiming mathematical exactness, the pathology of tuberculosis may be stated to consist in the fixation, at any given point in or on the tissues, of the tubercle bacillus, with subsequent hyperplasia of the fixed cells and coincident cellular infiltration. The anatomical result is a non-vascular mass of living protoplasmic elements surrounding tubercle bacilli. Such a tuberculosis may remain indefinitely as that alone, or may be followed by either a productive or destructive inflammation, with necrosis of tubercular elements, to which we give the name phthisis, and in which the part played by the bacillus is stated by the best authorities to be that of an exciter of necrosis. In this process the essence of evil in the action of the bacillus appears to be that it excites a poison necrosis of such low grade as to attack only the immediately adjacent non-vascular elements of low resisting power, without exciting a reactionary change among vascular and more highly resisting tissues. When this irritation is stronger, or the tissues more active, fibroid changes encapsulate the offending mass, unless a general inflammatory necrosis produces sloughing. So long, then, as the conditions at any given point are those of tuberculosis and not phthisis, any element which is capable of destroying the bacilli must either destroy the tubercular tissue or be absorbed by its cellular elements, and thus brought in contact with the bacilli. Nor is the condition essentially different when the smaller centres of tubercular change have become aggregated into larger masses, or are extending into previously unaffected tissues. With conditions thus fixed, with physiological laws established, and the necessity for constant activity in the pulmonary function as an essential to life, what are the possibilities for any remedy that could be made to order and guaranteed to accomplish the requirements? It may be stated as a mathematical deduction, that no remedy can be devised which will do more than one or more of five things:

1. Destroy the tubercle bacilli.
2. Develop inflammatory, degenerative, or necrotic processes in or about the tubercle tissue.
3. Induce necrosis of the entire tuberculous mass, with sloughing and consequent mechanical removal of the disease germs as well as involved tissue.
4. Produce absorption of previously softened, degenerated, or necrotic tubercular tissue.
5. Excite fibroid processes about or in the tubercular tissue, which shall either encapsulate it or cause its transformation into fibroid tissue, with practical arrest of bacillary activity.

It is evident that these lines of possible activity of a supposed remedy are not only of two opposed classes, but that one at least (the third) is of such a nature that no conservative therapeutist would dare attempt its accomplishment. To produce a distinct slough of any considerable portion of lung-tissue must be attended with such grave danger to the patient that we may, without weakening our argument, discard this proposition entirely. In determining the relations of a given substance to this action, we have, therefore, to consider only how we must employ it to avoid rather than attain this end. For the sake of completeness, we must also recognize two modes of action of a remedy under the first heading. Bacilli may be destroyed by the direct action of a substance upon the bacillus itself, or through nutritive, chemical, or other hidden changes in the tissues, which render them unfit soil for the development of a given bacillus. This latter contingency may also be discarded at present, since our knowledge of any such changes that can be ascribed to the remedy to be brought in question is absolutely nil. I must say, however, in passing, that just at this point appears to be a wide field for experimental investigation, where one may hope for large returns, though he sees but a short distance ahead.

Upon further analysis it is also evident that, while the two classes of activity are diametrically opposed in their pathological changes, the first three being destructive while the remainder are constructive, yet a combination of one or more from each class is essential for a complete relief of the disease. It is true, to be sure, that destruction of bacilli is technically a cure of tuberculosis; but as foreign tissue does not remain quiescent in the system, either absorption or fibrous conversion is practically a part of the curative process. Now, since judging from our knowledge of the action of drugs already in hand, we can hardly expect that any one substance introduced into the system will produce both destructive and constructive changes, except in so far as nature institutes the latter when the former are ended, it is evident that a single remedy is going to suffice for the cure of tuberculosis only when fully supplemented by nature's recuperative powers, or when the primary changes which it incites are fibrous in character, and so mechanically destructive to tubercle. It is also a second Q. E. D., rather than even a corollary, that when any remedy is used whose activity falls in the first class, it should be supplemented if possible by one of the second class, and always followed by every known measure which can stimulate the system to the highest activity in its natural efforts at repair. We turn now to the therapeutics.

Setting aside that small portion of our therapeutics which is purely empyrical, where a happy chance has

given us our drug, it may be broadly stated that all our medication falls under two heads, specific or adjuvant.

From the nature of the case the fo mer can be employed only where either pathological investigation has demonstrated a specific poison, or where logical deductions and clinical comparison show with almost equal certainty that such a cause exists, although it has eluded even the liliputian eye of an oil-immersion lens. Such medication is essentially exact, definite and pretermitting individual idiosyn rasy, unvarying. If syphilis and malaria were the only diseases we were called upon to treat, we might almost have our stock prescriptions dispensed in the slot machine.

And let me say as in a measure explaining the present excitement, that this is the belief which the average layman holds, that for every disease there exists a specific, either known or which will some day be found. and that the medical world passes from the ignorance of to-day to the wisdom of to morrow at a bound, not by patient climbing step by step. We laugh when it assumes the form of a horse-chestnut for the cure of rheumatism. We see it less clearly in the flood of patent medicines, while we are most provokingly blind to the fact that from a similar hope, if not belief, we quickly weary in the use of those measures which require effort on our part rather than the patient's. We smilingly order cod-liver oil three times a day for a year, but we speedily doubt the value of measures which *we* must repeat daily for three months. Yet both our failures and successes in the treatment of phthisis enforce the truth that it is by patience, and not pills, that we shall attain success. From the etiological standpoint alone, a specific medication may be predicated as possible in every specific disease, but etiology is not the only factor in the present problem, and pathological processes in this disease erect such a barrier of living elements between the entrenched bacilli and every attack ing poison, as heretofore to render the latter utterly inert. That the new remedy is no exception to this rule was known from the first, and Professor Koch's statement, that "it does not destroy the bacillus," at once put an end to all consideration of the treatment as in any such sense specific. It is thus put in the class of adjuvants, or those remedies which assist nature, which promote but do not change the natural processes of repair.

With lines of action thus mapped out, we have to consider in which one the lymph of Professor Koch must be applied. In accepting the remedy we must also accept, for the present at least, his affirmations as to its properties These he states as follows: "The remedy does *not* kill the bacillus, but the tuberculous tissue." If to this we may add the results of recent histological examinations as given from Virchow's laboratory, the actions of the remedy may thus be stated. It excites:

I. Degenerative and necrotic changes in living tuberculous tissue.

II. Inflammatory changes in the adjacent tissues which also tend to be destructive in character.

With these two changes accomplished, even to the development of an area of necrosis about the tuberculous mass, absorption becomes certainly a possibility, and for the time being at least the necrotic action of the bacillus is arrested. Moreover, and most important of all, the condition is changed from a conflict between active bacilli and non-vascular elements, to simple inflammatory necrosis in vascular tissues.

That such absorption of tuberculous tissue does take place, cannot be stated with authority; yet it is not an unfair or strained inference from Professor Koch's statement that, "in parts a disappearance or, as it were, a melting of the tissues seems to occur."

A comparison, now, of these affirmed actions of the remedy with the possible methods of cure in pulmonary tuberculosis, can simply serve to intensify our admiration for the comprehensive statements of Professor Koch as to the therapeutic value of this substance. While it may be admitted as possible, it is certainly distinctly improbable, that we shall be able to use a remedy, whose special power is in the production of tissue necrosis, in such minutely graduated doses as to develop a productive fibroid change in the affected parts. Since destruction of bacilli is also excluded by Professor Koch's own statement, there remains only necrosis with sloughing, or necrosis with absorption, as ends to which we should direct our efforts We have to consider, then, how we may avoid the first and accomplish the second, or excite an absorbable amount of necrosis. This implies, first, an estimation in each case, based upon the history, general condition of the patient, etc., of the grade and amount of inflammatory and necrotic changes which that particular patient will probably endure without breaking down of pulmonary tissue. I am aware that this is largely a matter of judgment, yet one who sees much of phthisis soon learns to recognize those signs of low resisting power which warn us that softening and excavation will follow close upon consolidation, or the equally certain indications that nature's forces are to make "a long pull and a strong pull and a pull all together" in the struggle for life. One would certainly never think of starting up necrotic processes in the lungs of the former case to the same degree as in the latter. Upon this consideration alone both the quantity and frequency of the inoculations will be as varied as the patients. It is also at this point that experience and judgment—what is called the personal equation—become most prominent. It implies, second, the recognition of those symptoms which indicate the extent and intensity of the local changes. They are principally the febrile reaction and the physical signs. One who has watched the cases in the Berlin hospitals must have more acumen than I possess to see that the doses are graded by any other consideration than the amount of febrile reaction. The same observer, however, cannot have failed to recognize that there is absolutely no fixed ratio between the febrile reaction and the pulmonary changes, as regards either their intensity or character. Anyone who has seen, as anyone may have seen in Berlin, a graded set of injections attended by the usual amount of febrile reaction, carry in one patient, during the space of two weeks, a condition of slight infiltration at the left apex, through extensive consolidation of the upper lobe, into a large cavity, with evidences of rapid softening in the adjacent tissue; while a similar set of injections, followed by essentially the same febrile reaction, were productive in a patient with more extensive primary tubercular disease, of only increased bronchial râles and some pleuritic exudation, can hardly object to the dogmatic statement that in pulmonary disease the physical signs, and not the temperature, following an inoculation should be our guides in determining both the amount and frequency of the injections.

I would not be understood, however, as regarding the fever curve as of no value. Although estimating it of secondary importance, I consider it a valuable danger-signal, and especially that portion which lies below the normal line, and which appears quite as properly to lay claim to the term reaction-curve as does that above.

There still remains the question whether the local necrotic processes were best kept continuously active, or after a brisk excitation allowed to subside for a time. The answer must depend largely upon the individual case. While I am personally inclined to the latter course, sufficient may be said upon either side to justify a clinical test, and it therefore falls outside imperative rules of treatment. Thus far we have considered only the destructive action of this remedy, and its power to produce inflammatory changes.

Were one to judge from the reports of cases and what he sees in foreign hospitals, he must conclude that this is the sum-total of the treatment. So far as I am aware, no one has gone beyond this in phthisis.

The destructive part of the treatment has been followed to the letter, while absorption and repair, upon which Professor Koch lays such stress, have been most confidingly entrusted to Providence. As a result, both

the laity and the elect are beginning to cry "*cui bono?*" It is at just this point that I desire to enter a protest. Such testing of this remedy tends quite as much to conceal as to prove its true value. And I do not hesitate to say that results obtained by its use among hospital patients, where not only all the surroundings are such as are known to favor the progress of the disease, but where only half, and that the dangerous half of the treatment as formulated by Professor Koch, can be carried out, can be accepted only in so far as they are favorable, and that even a rapidly-increasing death-rate among such patients cannot be taken as any indication of what results might be attained under favorable surroundings, where the remedy is used in conjunction with other measures which promote reparative processes. Necrosis alone is the road to death. Recovery can be reached only through absorption or fibroid change.

In his original article Professor Koch says: "If the therapeutic activity of the remedy is to be rendered as fruitful as possible, the peculiarity in its mode of action must be carefully observed. In the first instance, the living tuberculous tissue must be caused to undergo necrosis, and then *everything must be done to remove the dead tissue as soon as possible.*" To which I think one may justly add, and to prevent sepsis and destroy those bacilli which have been brought within reach of antiseptics. That we have resources at our command which assist in all these ways no one can doubt We are constantly seeing tubercular infiltration "clear up" by some other process than that of softening, nor have we ceased to use both internal and local antiseptics in phthisis because they are no longer "sure cures."

Shall we now lose our load of grain because the new horse alone cannot bring it? What we desire to know of this new remedy is not so much what it can do alone, as its power in combination; its value as an adjuvant to measures we already possess, and know to be good. Upon this basis I have outlined the following plan of treatment, which I am now testing with patients under favorable conditions.

Indications.—I. To prepare the patient's lungs for the inoculations by expansion, stimulation of circulation, and removal of mucous and catarrhal products. With some of the patients now under my care this had already been done by the use of the pneumatic cabinet; others are still undergoing this preparatory treatment.

II. To establish specific processes in the tubercular tissue by injections of 0.001,0.002, or more c.c. of lymph every twenty-four hours or oftener, until the physical signs indicate active changes in the lung.

III. To favor absorptive processes until the physical signs show a subsidence of the active changes.

For this purpose I do and shall employ the pneumatic cabinet. As this is not the place to discuss the physics or therapeutics of this instrument, a subject I shall consider later, I will only say that for the past five years it has done more in my hands for the relief of pulmonary tuberculosis than any other remedy; and state, what I think I can demonstrate to anyone who will afford me the opportunity, that it acts most powerfully to excite and promote the absorption of the products of consolidation and pleuritic exudation in tubercular disease of the lung.

Every measure which hastens the pulmonary circulation and expands the alveoli, tends to the same result, even if less powerfully.

IV. To saturate the blood with such antiseptics as experience has led us to use heretofore in phthisis, in the hope that with the necrotic changes and inflammatory processes their efficacy may be increased.

For this purpose I am at present using creasote in increasing doses, both by hypodermic injection and through the stomach. Other substances may perhaps prove equally or more valuable.

V. To render antiseptic so far as possible the free secretions and exudative and necrotic products, in the pulmonary lumen.

The choice of substances is less limited for this purpose. I have used peroxide of hydrogen, pure oxygen, and various antiseptics.

VI. To stimulate by every known means general nutrition.

I have not forgotten nor do I desire to ignore the fact so readily recognized, even before it was pointed out by Virchow, that in the absorption of this necrosed mass by the tissues, the bacilli must also be disposed of. But in considering, as I have done, simply the logical method of testing this remedy, the results of treatment can find no place. I cannot refrain, however, from recalling the physiological fact that absorption is preced d by liquefaction following infiltration by active, living, white cells, which may render the bacilli inert before they enter the lymph-vessels. It is certain that the system has means and methods of dealing with bacilli, as evidenced by the natural history of every specific disease.

It only remains to determine to what class of cases of pulmonary tuberculosis the above treatment is applicable.

Cases of phthisis may be divided with sufficient exactness into three classes:

1. Cases of pulmonary infiltration, with or without pleuritic changes, which have not reached the stage of softening. 2. Cases in which more or less rapid necrotic changes are going on. 3. Those in whom reparative processes are fairly developed.

It is, of course, to the first class that this treatment is particularly applicable, and it is perhaps safe to say that it may be tested in all such cases. We shall undoubtedly find, however, that it must be used with much greater care in such as have developed consolidation rapidly than in the more chronic conditions. I am inclined to believe that the resisting power which the system manifests to the invasion of the bacillus, will largely indicate its tolerance of the changes induced by the remedy.

In the second class of cases, where extensive and rapid necrosis has followed acute infiltration, any use of the lymph appears to me entirely unjustifiable before other measures have arrested, in a measure at least, the destructive changes. When these processes are chronic and moderate in amount, and the patient is suffering quite as much from general sepsis and exhaustion, moderate doses at long intervals may excite a healthier activity in the affected tissues. In the third class I am unable to see any object to be gained by the re-establishment of degenerative processes, so long as the patient's general condition as well as physical signs indicate an upward rather than a retrograde course.

Yet, when all has been said from a scientific standpoint, we shall often find ourselves moved by pity and sentiment, to make one final, even though despairing, effort to snatch some loved life from out the gathering mists of death. The cautious physician, however, can never forget that in this innocent-looking fluid he wields the weapons of nature herself, or fail to realize that the vast throng who faint and die under the baleful breath of the bacillus have never had a greater danger threatening them, or a stronger hand of succor stretched out for their relief.

44 West Thirty-sixth Street.

A Pathological Language.—A London physician has a patient who has a defect in his speech of a most singular character. The patient, a lad aged ten, and English by birth, is unable to speak his native language, but articulates a jargon which cannot be understood. He was examined by many doctors, none of whom could decide whether he spoke the same thing twice in the same way or not. The assistance of the phonograph was called in, and the lad, in the presence of several gentlemen, was asked to speak the Lord's Prayer and the alphabet. When a comparison was instituted between the various cylinders containing the record, it was found that there was no variation in the spoken words, and that it was quite possible for the language which the boy speaks to be understood by simply learning the various sounds.

KOCH'S FIVE ORIGINAL CASES.

By J. WARREN ACHORN, M.D.,

NEW YORK.

In Berlin, in the private hospital of Dr. Levy, on Prenslauer Strasse. Professor Koch worked out to its present state of perfection the solution of his lymph problem. The room occupied by him for this purpose is a small one at the extreme left of the hospital suite, the window of which looks into an inner court. A chair, table, table-topped cupboard with a row of shelves above it, small iron sink, and iron stove, something like an ordinary cooking stove; on the table a Zeiss microscope with any number of sputum mounted slides, dated, and lying about it; on the shelves rows of unlabelled bottles of various sizes, containing liquids of varying colors, in which the lymph was probably stored, unmixed; on the table-topped cupboard trays, stands, and funnels for filtering purposes, with the red-stained filter-papers still in them; the stove and sink with their deck-load of utensils, and you have the room complete as it was in September, with Professor Koch gone out of it only an hour before. In the next nearest room, much larger, carpeted, and furnished with a sofa, table, chairs, bookcases, etc., evidently a room for doctors to gather, Professor Koch made his first announcements, in confidence, to his colleagues, Drs. Levy, Pfiffer, and others, five in all, respecting his discovery, the virtues of his lymph, and how to use it. His first words were, as reported, "Ich habe es gefunden." The next room in order, the third, is where, upon September 22d, treatment with the lymph was begun, the patients being five men, four of whom were suffering from phthisis, and the fifth from suppurating tubercular glands of the neck, that had been operated upon surgically. Their ages were thirty-eight, thirty-four, thirty-two, thirty-two, and twenty-two years. The cases of phthisis were apparently all chronic.

Just prior to November 13th, the date of the appearance of Professor Koch's article in the *Medicinische Deutsche Wochenschrift*, announcing his discovery, two of the four phthisis patients were discharged as cured, no bacilli appearing in the sputum expectorated by them. In these cases the lymph had been injected according to the reaction, and repeated as soon as the conditions were again normal, one or two milligrammes of a one per cent. solution being used each time. As soon, however, as reactions ceased to follow the injections, they were made only once in six to twelve days, and this would seem to indicate that the lymph was expected to have its effect irrespective of any marked symptoms.

On November 21st the two remaining cases of phthisis showed fewer bacilli in the sputum expectorated, and there was freedom from night sweats and fever. During the first three weeks' treatment one milligramme daily was given these patients, but subsequent to that time the injections were made only once in twelve days. In all four of these cases the sputum became tenacious, thinner, and whiter. Case No. V. of the original was especially interesting, the incision in the neck refusing to heal under any known treatment, injections of iodoform among other remedies being tried. November 25th, this patient was sitting up, had gained one pound in weight while in bed, and there were healthy granulations appearing in the wound in the neck. Patient had had no injection of lymph in fourteen days.

November 12th, a case of tubercular conjunctivitis was admitted, in a girl aged twenty. On November 24th she was given three milligrammes of a one per cent. solution of lymph experimentally, she having previously had four injections in all of the strength of one milligramme each. Her temperature went up to 40° C., when she developed acute laryngitis, which lasted as long as the high fever, with 80 respirations to the minute and pulse at 156. Eighteen hours after this injection the girl was in a heavy stupor.

November 23d, a case of tubercular cervical glands was admitted in a girl fourteen years of age. Given ten milligrammes of a one per cent. solution, experimentally. Her temperature rose to 40.8 C.; pulse, 140; she vomited, had chills, and became stupid, her breathing being stertorous and heavy. In twenty-four hours her temperature was again normal, but twelve hours later there was a return of the fever, the stupor, and the heavy breathing. There was great swelling about the neck, all the cervical glands under the jaw being involved. The swelling and induration interfered seriously with her breathing. Had the larynx and pharynx been equally affected the case might easily have resulted disastrously.

The smallness of the injections persisted in at Dr. Levy's clinic, under Professor Koch's immediate supervision, the fact that results were expected whether marked reaction followed the injections or not, coupled with the history of unexpected and startling phenomena following the giving of lymph in some cases where small amounts only were used, leads us to the conclusion that we are justified in using only small injections of so violent a poison.

AMPHITHEATRE OPERATIONS.

By OTIS K. NEWELL, M.D.,

SURGEON TO OUT-PATIENTS, AT THE MASSACHUSETTS GENERAL HOSPITAL, BOSTON, MASS.

Considering the great advance that has been made in surgery, from the time when "but to touch the peritoneum was considered fatal" to the day in which five hundred or more consecutively successful cases of laparotomy may be reported, we are undoubtedly confronted by the fact that underlying all this there must be a principle so true and incontrovertible that the laws which it establishes should be observed to the very letter. If we are willing to admit this we must also acknowledge that many further changes are needed in every system of antisepsis before it can be brought to a state approaching perfection.

Among these changes, I believe, there can well be placed the abandonment of the old style amphitheatre as a place in which to perform capital, if not all operations, upon sound uninfected tissues. The amphitheatre is essentially a place for spectacular demonstrations to large audiences, and as such is a most valuable means of discipline for the student who may there be placed "under fire" in the training which is necessary to accustom him to what in the early part of his career he finds so hard to bear. For demonstrations and lectures to large audiences, therefore, upon such cases as do not require the strictest antiseptic treatment, that is those which come to us already in a septic condition, the amphitheatre furnishes the best structure devised from the time of the great Roman arena to the day when such places were built to watch the progress of science rather than mortal combats. I believe that every operation among those indicated, even to the removal of a finger, would be done to best advantage in a small operating room where the possibilities of infection could be most carefully watched and most successfully eliminated. An infected and suppurating finger wound may extend from slight disability to the loss of hand, arm, and even life. How important is it, then, to the artisan at our clinic, who earns with the labor of his hands his daily sustenance, that we should eliminate as far as possible for him all exposure to infection. Changing in polyclinics from one case to another how hard we often find it with our best efforts to do this successfully in every case.

When we come to capital operations, however, there can be no question, I think, that they should be confined to the modern small operating room before limited audiences. The exposure of large surfaces to infection is perhaps more dangerous in open flesh wounds than in the peritoneal cavity, where we have more to fear from long temperature changes in many cases than anything else. We all know how splendidly the peritoneum is able to handle considerable amounts of infectious material, while under certain conditions a sudden temperature shock, such as a

piece of ice placed upon the intestines in animals, causes instant paralysis of the heart's action. Small operating rooms are therefore of further advantage in maintaining a high and even temperature without draughts—points of great importance in peritoneal operations. It may be said that so much precaution as this is not necessary, that we can depend upon final disinfection of the wound and field of operation. This may be true, and is no doubt in many cases, but, if we believe in the great principle, where ought we to make exception to it? How is it that in many cases where the best of care has apparently been taken, we find, to our consternation, a knee-joint, a peritoneal cavity, or a large resection wound bathed in pus and our patient's temperature remaining hopelessly high. Fortunately such occurrences are not common, but since they do happen, where shall we stop? At the disinfection of our wound, the washing of our hands, boiling our instruments, changing our clothes, or at what point? I believe at no point, until we reach that condition under which every possible and practicable means has been adopted for the avoidance of disaster from wound infection.

If, as might be said, "he who runs" may catch the measles, how can we know that the presence of a number of persons from a pathological examination or from some septic operation may not under certain conditions be a serious menace to the welfare of our case? Or how can we know that, with a mixed system of operating upon septic and aseptic cases, a sponge or other instrument used in a rectal case or for some foul pus-cavity may not, in spite of our best care, be employed with material for an aseptic operation? No matter how watchful we may be, or how vigilant our assistants, mistakes and unrecognized sources of infection seem bound to come, and that will be the most successful system which offers to them the fewest opportunities. The best operator to-day, from the strictly operative stand-point, is the one who is most successful with his antisepsis. Tissues may be torn out and yet will heal kindly, but though removed on the finest lines and with beautiful precision they will be ungrateful to the operator if by some chance his watchful eye has not been able to detect the unwitting carrier of infection.

It seems rather in line with this advance, if such it be, to believe that surgical clinics would be far more profitable to patient, student, and teacher if the old time visit *en masse* with touching elbows and craned necks were to give way to closely watched antiseptic drills in small squads.

68 St. James Avenue.

Clinical Department.

OXYGEN AN ADJUVANT IN DEFECTIVE ARTERIALIZATION.

By F. M. JOHNSON, M.D.,

BOSTON, MASS.

The following case, of a class fortunately rare, illustrates the relief that may ensue from the use of oxygen when palliative treatment alone is possible.

On the morning of November 17th, was called to Mrs. T——, aged sixty-five, a woman of heavy build and weighing over two hundred pounds. There was no history of rheumatism, but I learned that she had previously suffered, at times, from severe precordial distress and disordered action of the heart. These attacks, however, were of short duration and had not occurred for some time, and she was thought to have entirely recovered.

Found the patient struggling for breath; respiration very rapid; pulse weak, 140, and slightly intermittent. Cyanosis of the lips and finger-nails was present in marked degree. She was in profuse perspiration, and on auscultation mucous râles were heard over both lungs.

Diagnosis of chronic myocarditis was made; the dyspnœa was caused by failure of compensation inducing ae pulmonary œdema and resulting six days later in hypostatic pneumonia. Diagnosis was sustained by consultation. At first the case was treated with morphine and atropia hypodermically; champagne, and concentrated fluid foods. Stimulating and nutritive enemas were used as occasion demanded.

This treatment produced very little relief, and, as soon as it could be procured, a cylinder of oxygen was placed by the bedside, and at short intervals the oxygen was allowed to escape, the tube being held as closely as possible to the patient's nostrils. Relief was immediately obtained and the severity of the symptoms very perceptibly lessened.

On the advent of pneumonia the oxygen was more freely used, producing a marked sense of comfort. Food was well retained. The patient, however, grew gradually weaker, although seemingly suffering but little, and death ensued on the eleventh day without a struggle. In such hopeless cases, where the ordinary remedies avail but little, the comfort derived from oxygen makes it worthy a trial.

The Tudor.

PAINLESS CIRCUMCISION.

By G. W. OVERALL, M.D.,

MEMPHIS, TENN.

For the past fifteen years I have performed circumcision quite frequently for the relief of various nervous disturbances. Since the introduction of cocaine I have used it almost exclusively in men, and frequently in children, by injecting it beneath the integument in the prepuce (having previously placed a rubber band around the penis half an inch or more back of the corona to limit its effect to the prepuce).

The pain attending the introduction of the needle into the sensitive skin has been a serious objection in men, and almost as bad in children as the operation itself. Then I have had various postponements, and often complete abandonment of it, because I could not promise "that it would not hurt." Now I can promise an operation where a child would not even know it until it was performed.

I do not want my patient to see the operation, and in the case of a child I conceal the instruments. I then place the patient upon his back and lay a small pillow on his chest so that he cannot see over it. I then adjust the rubber band, take a freshly prepared thirty per cent. solution of cocaine and inject with a small blunt-pointed syringe a few drops into the preputial orifice, at the same time I hold the end of the prepuce with my left hand, to prevent the escape of the fluid. I then press upon the fluid with my right hand to enable it to come in contact with the entire mucous membrane. I hold it for five or six minutes, when the mucous membrane is completely anæsthetized. I then introduce carefully my hypodermic needle through the preputial orifice and penetrate the mucous membrane and inject a few drops of cocaine. I then move it to another part and repeat the injection. It necessarily requires caution to prevent puncturing the integument, which would cause pain. I operated upon a child six years old, very small, nervous, and excitable, while he was discussing with his mother the kind of toys he would get for Christmas. I also operated upon a boy fourteen years old that came from an adjacent town (using silk-gut ligature), he did not feel the slightest prick of the needle. He returned home the same evening and recovered without a bad symptom. It is always better to use a ligature that does not require to be removed.

LIGATURE OF THE CAROTID ARTERY FOR ANEURISM OF THE OPHTHALMIC.

By W. W. BAILEY, M.D.,

FORT SMITH, ARK.

On September 19th Dr. J. W. Pruitt, of Russelville, Ark., brought to Dr. George W. Smith, for treatment, Gertrude V——, a girl aged thirteen, who four years ago

was accidentally struck with an umbrella rib in and above the inner canthus of the right eye. This produced a large extravasation of blood in the cellular tissue around the globe, and was soon followed by a pulsating tumor in the orbital cavity, which increased in size, with bruit and thrill distinctly felt and heard. Dr. Smith's examination showed that the external veins of the globe were enlarged, with a great deal of conjunctival congestion and a varicoid condition of the superficial blood-vessels of that side of the face, producing a decided deformity. The right optic nerve had the appearance of receding neuritis. The retinal vessels were obscured at various points. V. = right eye, some of $\frac{1}{20}$; that of left eye, $\frac{1}{10}$. Drs. Smith, Pruitt, Stephenson, and myself diagnosed the case aneurism of the ophthalmic artery. The tumor was rapidly increasing in size, extending above the supra-orbital ridge, and it was decided to tie the common carotid artery of the same side for relief.

Accordingly on September 21st the patient was anæsthetized and, with the valuable assistance of the physicians named, I performed the operation. From the first the anæsthetic produced distressing nausea, which lengthened the operation; otherwise nothing happened to interfere. The nerves, artery, and vein were in normal position, and the artery was safely reached and secured. The ligature used was an antiseptic heavy black braided silk, the superficial sutures were of fine silk with intermediate fine gut. On the 30th the stitches were all removed, the wound had healed by first intention, and the ligature only remained, the distal end protruding from the lower part of the incision. Distressing nausea continued day and night until the morning of the 23d, when it ceased. From that time until the twelfth day afterward she had a restricted diet of peptonized milk and infant's food. After this she was allowed a more generous diet. October 18th she was permitted to go home. The aneurismal tumor was then greatly diminished in size with a thrill only faintly felt at the inner canthus. The ligature was still firm and in position, but it came away on the 30th. Since that time Dr. Pruitt, her physician, writes that the operation has benefited the patient seventy-five per cent.

APOMORPHINE AS AN ANTIDOTE FOR POISONING BY STRYCHNINE.—ESSENTIAL HYDROPS.

By W. J. RANSOM, M.D.,

LOCKPORT, N. Y.

I NOTICED in a recent issue of the MEDICAL RECORD two articles which were of more than ordinary interest to me from the fact that I have had cases in my own practice similar to those therein described. I was once called to see a man who had taken by mistake an overdose of fluid extract of nux vomica. He had taken the liquid from the bottle without measuring it, and did not know the exact amount. He immediately took an emetic dose of ipecac, and telephoned for me. I saw him about fifteen minutes after he had taken it and the emetic had not taken effect. I was prepared for the emergency and had chloroform, etc., with me and also apomorphine in the form of hypodermic tablets, one-twelfth of a grain each. I immediately gave him a tablet hypodermatically, but had no more than removed the needle when he had a terrible convulsion. I administered chloroform and in a short time the convulsion ceased. For a moment I feared that he was past help; his pulse was barely perceptible and the heart-sounds were feeble. In a few moments he rallied, vomited freely, and perspired profusely. He did not have another convulsion. I gave chloral and potassium bromide through the night, and the next day my patient was all right. At the time I thought that, aside from the emetic effect of the apomorphia, its general relaxing effect had combated the convulsive effect of the nux vomica.

In regard to the effect of anæmia, as shown by œdema, especially of the lower extremities, I have had experience in several cases, particularly among kitchen girls in restaurants. I have also had two cases of anæmic ascites—one a school-girl aged thirteen, the other a young boy ten years of age. In both cases the abdominal cavity was distended with fluid and the necessity of paracentesis seemed imminent. In none of the cases was there any kidney complication and in all anæmic murmurs were present. In one case there was a return of the œdema of the lower extremities in the course of a year, but it yielded to treatment. In most of the cases tincture of ferri chloridi in full doses (twenty drops twice a day largely diluted in water) and milk was the principal medication; in some cases pepsin and hydrochloric acid were prescribed, and in others, where the tincture was not well borne, I gave syrup of ferri iodidi; I also gave laxatives when constipation was present but did not give hydragogues. In the cases of ascites I used the syr. ferri iodidi and applied iodine tincture externally. Recovery took place without the necessity of tapping.

CASE OF TRAUMATIC TETANUS—RECOVERY.

By FREDERICK J. WOOD, M.D.,

BROOKLYN, N. Y.

JAMES Mc——, aged ten, was brought to me at the Dispensary by his mother, on September 15th, complaining of stiffness of the jaw. A finger could scarcely be pressed between the boy's teeth, the muscles of the neck were becoming rigid, and the pupils were contracted. I found a jagged wound (which had been made nine or ten days before by the boy's stepping on a piece of glass) on the plantar surface of the left foot, running from within outward and forward through the arch. It was foul and sloughing. The extensor and flexor muscles of the big toe were contracted, so that the second phalanx was extended, while the third phalanx was tightly flexed. Temperature, pulse, and respiration were normal. Ordered to bed, and gave fifteen grains of bromide of potassium and ten grains of chloral hydrate every two hours, and a poultice of flaxseed to be applied to the wound.

The next day called at the boy's home. He was very restless, trismus more marked, and muscles of legs and abdomen were stiffening. Temperature, respiration, and pulse normal. Wound washed off with solution of corrosive sublimate and fresh poultice applied. Milk punches were ordered. Had patient moved to a dark room, which there happened to be in the house, where patient was more easily accessible to me, and away from the rest of the family. Two days after there was complete opisthotonos, and patient bit his tongue several times. Ordered medicine to be given every hour. The next few days saw the opisthotonos disappear, but the muscles were still quite rigid. The wound looked healthier, but the poultices were continued until September 29th, when it had completely healed. It was very painful, however, on pressure after the healing, and a clonic spasm of the muscles of that leg was sometimes reduced by touching the cicatrix. As hallucinations became very pronounced, the bromide and chloral mixture was stopped, except at night on failure to sleep, and $\frac{1}{16}$ grain of morphia sulphate and $\frac{1}{150}$ grain atropine given every two or three hours.

In this way patient went along without an untoward symptom till October 6th, when the writer was hurriedly called to see him. He had slept for four hours; breathing was labored, lips were bloodless, and he could not be roused, the friends said. He awoke soon after my arrival, and was perspiring very profusely. Muscles of neck and abdomen were flaccid. Temperature in the axilla, 104$\frac{1}{5}$° F. Heart, rapid and feeble. Was very irritable and delirious. Injected $\frac{1}{10}$ grain digitaline, $\frac{1}{4}$ grain morphia sulphate, and $\frac{1}{150}$ grain atropine together, the needle causing a spasmodic contraction of all the muscles. In a few minutes there was an improvement of all the symptoms. Next day (October 7th), patient was

brighter. Temperature, 99⅘° F., pulse 120, but strong. On October 8th, ordered five-grains quinine t.i.d.; but patient was still very irritable, and on October 10th refused to take either food or medicine. Temperature, 99° F. Pulse rapid and feeble, 130. The exhibition of a tube, and threat to feed him through the nose, had its moral effect, and he began to take his milk, whiskey, eggs, and quinine as before, and from that time he gradually improved. Saw him last on the 6th of this month (December), when he walked into my office. He complains of soreness of the left foot, where the wound was, and has a slight limp.

It is not claimed that any special drug was instrumental in effecting a cure, but I consider that the dark room was by no means an unimportant part of the treatment.

AN APPARENT CURE OF ACUTE PULMONARY TUBERCULOSIS.

By N. McCABE, M.D.,

NORTH PLATTE, NEB.

THE following case would seem in accord with the opinion of Dr. McCall Anderson that acute phthisis is curable.

The patient, a female, aged twenty three, gives a family history distinctly tubercular, a brother and sister having recently died of tuberculosis, after a lingering illness of two years' duration, in both cases. She suffered from habitual cough, although not of a distressing nature, for several months, but presented, during this time, no further symptoms of an existing tuberculosis. General health good; no emaciation or loss of appetite; continued to perform her duties as a domestic servant without interruption until acute symptoms set in. Suddenly the cough became more severe, with considerable expectoration, general lassitude and fever increased in the afternoon. Appetite and strength began to fail, while perspiration was at times quite profuse. After about two weeks, during which time the patient was able to be up at intervals, she became profoundly prostrated and was obliged to remain in bed all the time.

At this time a sister of the patient presented herself in tears at my office, saying that her sister was dying of quick consumption, as the physician in attendance had pronounced it such, and had given up the case as hopeless. She requested me to call and do what I could for her in her last hours.

I found the patient much prostrated; pulse, 120; temperature, 104½° F.; respiration, 56 and much embarrassed; face pale and haggard and perspiration profuse. Physical examination revealed dulness, especially marked over the apices of the lungs, with fine râles distinctly heard anteriorly.

Ordered stimulants, with milk and beef-tea, to be given in small quantities frequently repeated, and antifebrin to reduce the temperature. The administration of antifebrin was followed by a most gratifying reduction of temperature, without any appreciable increase of prostration. About thirty grains were given in twenty four hours. A tablet containing morphine sulphate, ⅛ grain, and atropine sulphate, $\frac{1}{150}$ grain, was given each night to control the cough, which was very annoying.

The perspiration, which was almost continuous, although somewhat increased within an hour after the administration of each dose of antifebrin, had in the aggregate become less on the second day of the treatment, and continued to grow less throughout.

This line of treatment was continued for three weeks, when the fever had entirely disappeared, with appetite and strength slowly but steadily returning. Râles and dulness disappeared; respiratory murmur clear and distinct over both lungs.

Convalescence continued without interruption and the patient is now enjoying good health, the cough from which she suffered before the acute symptoms set in having disappeared.

The cure in such cases may be explained on the hypothesis that the patients already suffering from incipient tuberculosis are attacked with pneumonia, the consequent inflammation of the tissues surrounding the tubercle, like that caused by the Koch lymph, giving rise to suppuration of the same, followed by the healing process.

ESSENTIAL HYDROPS.

By MARCELL HARTWIG, M.D.,

BUFFALO, N. Y.

WITH the greatest of pleasure I embrace the opportunity to answer the first objector, so much more as there is some subsequent history to be added to this singular case. Readers who overlooked the previous communication I refer to the RECORD of September 27, 1890. Incidentally I shall introduce the description of a new trocar. Horace was right in advising an author to consider his work for nine years before its publication, but what shall we do in our electric times? Had I not published my first case of wiring the patella immediately after recovery of the patient I could not claim priority over Lister. Therefore I had to publish the case of essential (inflammatory) hydrops, although there is now a subsequent history to it.

The girl in question was feeling well and going about, although not working, from July 22d until September 20th, when I was called in attendance again. Fever had again set in, and soon I had reason to suspect pleural effusion or pneumonia. The remarkable fact of bronchial breathing in the region of dulness, with slight dislocation of the heart, was puzzling, but Pravaz's admirable instrument solved the question, and, as salicylate of soda produced no effect in the case, I tapped the right pleural cavity on October 5th with my trocar and drew off a large quantity of amber-colored fluid which congealed directly after the operation. Doctor Schroeter kindly examined the coagulum for tubercle bacilli but could not discover any. The fever vanished, the pleural cavity did not refill again, and on October 15th the girl was well.

I called on her to-day and found her in good health. The new trocar which I used on that occasion has served me often so well in tapping the pleura that I describe it. The cannula of a common trocar is cut across and the two sections are held together by a firm metal brace shaped like a [ ]. The space between these is filled with a piece of rubber tubing securely tied over both ends of the cannula. About two inches from the point the cannula has a lateral outlet, with rubber tubing for attaching a pump. After plunging the trocar into the pleura and withdrawing the stem, the rubber portion of the cannula is compressed by a spring clamp, whereby the possibility of air entering the pleura is excluded. To be sure of perfect action, a test with water before operating should not be omitted. The fingers of an assistant can be substituted for the clamp; but the clamp is preferable for its lightness. This is the very advantage which my instrument has in comparison with other trocars.

Now as to what Dr. Ross writes. I thank him for mentioning simple anæmia as a possibility, as this condition was not particularly considered in my former article. Though the doctor's case is to him "exactly similar," I cannot refrain from doubting the fact; but taking it for granted that Dr. Ross saw such an exact similarity, then he treated a case of essential hydrops and omitted the opportunity to describe it. Was my case one of simple anæmia? Anæmia a febrile disease? That is something new to me, when pernicious anæmia is excluded. Anæmia of itself cannot cause dropsical effusions, except in dependent parts, as in the feet or on the back in the lying posture. In my case the anæmia was by no means profound. The girl had never missed a menstrual period until she became sick, and menstruation has occurred several times since. Everybody who has read my case will know that a little iron could not have been sufficient to

cure it. In Dr. Ross's case time may have been the curative element. At all events such an "anæmia" deserves to be separated from all other anæmias, with a new name, and search to be made for its foundation. This may be ultimately found to be of germic (*sit venia verbo*) origin. The next case of essential hydrops should have its blood subjected to bacteriological investigation.

PLACENTA PRÆVIA CENTRALIS WITH TRANSVERSE PRESENTATION.

By CHARLES J. PROBEN, M.D.,

CHARITY HOSPITAL, BLACKWELL'S ISLAND, N. Y.

Mrs. K-- , aged thirty eight; has had six children, all confinements prior to the last one having been perfectly normal, without any complications. The case was in charge of Dr. W. W. Stewart, to whom I am indebted for the history prior to the date of confinement, which is the following:

On August 20th, at 3 A.M., there occurred a severe hemorrhage, which had soaked through the bedding and formed quite a pool on the floor. On examination the cervix had a velvety feel, with rigid os externum, admitting with difficulty the point of the index finger. The os internum was impervious. Ballottement indistinct and a marked pulsation could be felt with the point of the finger. The woman complained of "feeling life" to an unusual degree, and on palpation violent movements could be perceived. This hemorrhage was treated by borated cotton tampons, rest in bed, and 15 milligr. of sulphate of morphine. The patient slept well for seven hours, at the end of which time it was found that the hemorrhage had entirely ceased. Pulse, 110; temperature. 101° F. On vaginal examination the diagnosis of placenta prævia centralis was made. The induction of labor was advised, but was refused by the patient. The vagina was then well douched and tamponed. This treatment was discontinued at the end of four days, there having been no recurrence of hemorrhage. She was furnished with tampons, instructed how to use them, in case hemorrhage should occur, and to send immediately for the physician. On September 15th Dr. Stewart was summoned and found the patient complaining of incapacity to hold her urine, and a heavy feeling in the lumbar region. On examination the cervix was found sufficiently dilated to pass the finger through the os internum and feel the placenta. Next day I was called in consultation with Dr. Stewart and confirmed his diagnosis of placenta prævia centralis with transverse presentation, dorso-anterior position, with head on a level with the right iliac crest and an excess of liquor amnii. The patient then said that she had had labor pains for two days, which were gradually dying out, accompanied with a slight bloody discharge. After examination quite a severe hemorrhage started, which, however, soon stopped. Later on, during urination, large blood-clots were passed from the vagina. Considering the circumstances, having before tried to do cephalic version by external manipulation, but failing, it was decided to do podalic version. The patient was placed on a table, chloroform administered, and a vaginal douche of 1 to 6,000 bichloride given. Dr. Stewart introduced his hand into the vagina, dilated the cervix quickly with the fingers, and detached the placenta completely. An alarming hemorrhage immediately followed. I quickly introduced my hand, delivered the placenta first, rupturing the membranes, and performed podalic version by pulling down first one foot and then another, assisted by manipulations through the abdominal wall. The legs and body were delivered, and the next difficulty was the extension of both arms above the head, which was managed by sweeping them over the face and chest and so extracting the shoulders. The cord was twisted tightly around the child's neck. The next obstacle was the delivery of the head, the chin becoming fastened under the pubic arch. Manual pressure upon the fundus uteri, and traction applied below, with flexion and extension, were tried, but all in vain, until finally the forceps were applied. When born the child was in a condition of asphyxia. Various methods of resuscitation were tried, and were finally successful. The child was then wrapped in warm flannel and laid to one side.

Meanwhile a copious post partum hemorrhage occurred, which was controlled by kneading the uterus, the use of ice in the vagina, and the administration of ergot.

On examining the placenta the membranes were found not intact, and hence necessitated removal by introducing the hand into the uterus. The uterine cavity was then well douched with hot 1 to 6,000 bichloride solution, which controlled all hemorrhages. The parts were well washed, and the vulva pad was applied, to be renewed every three hours. Four grammes of fluid extract of ergot were given, with 15 milligr. of morphine sulphate and whiskey hypodermatically. The pulse was quite weak and rapid, 140 to a minute, but the above-described treatment brought it down to 110. Temperature. 101° F.

The after-treatment consisted in giving vaginal douches, 1 to 6,000, three times a day for ten days. Catheterization three times a day. Whiskey and milk as required. The bowels moved on the fourth day. The patient was discharged on the tenth day, the mother and child both being in good condition. This case is interesting in so far that the abnormal presentation, complicated by placenta prævia, was treated by version, with delivery of the placenta before delivery of the child. This was followed by retained membranes and post-partrum hemorrhage, which greatly endangered the life of the mother, but still a rapid convalescence took place.

McDOWELL'S METHOD OF CONTROLLING EPISTAXIS.

By H. D. WOOD, M.D.,

FAYETTEVILLE, ARK.

I have read with considerable interest the article from Dr. W. W. Parker on "A Simple Substitute for Bellocq's Cannula and all other Methods for Controlling Epistaxis." I see that his method has been published in several medical journals, quoted from the Medical Record, and as no one has suggested anything better I ask for space to give the plan that Professor John T. Hodgen, of St. Louis, taught twenty years ago. He called it Dr. John McDowell's method.

It is to introduce a condom into the nasal cavity and fill it with air or water.

For fear some one may have the same difficulty that I had on attempting this method—that is, have the bag fill on the outside of the nose and pull out what had been pushed into the nasal cavity—I will give the method that I have practised.

Cut off two or three inches of the open end of the condom, as may be thought necessary, and introduce a No. 5 or 6 soft rubber catheter, leaving the bag to project about half an inch beyond the end of the catheter, as it will shorten when distended. Hold the cut end of the bag evenly around the catheter and take a few turns with a sewing thread, and tie securely to prevent it from leaking, but not so tight as to obstruct the lumen of the catheter.

Now dip this simple instrument a few times in clean water, hold the bag between the thumb and finger of one hand and twist the catheter with the other until it is brought in contact with the end of the bag.

While holding the instrument in this way ask your patient to forcibly blow the nose so as to free it from all blood-clots. Now introduce the instrument into the bleeding nostril until it lies just within the cavity. Then give

the catheter a turn in the opposite direction and fill it with air or water and plug the end so the rubber bag will remain distended. The catheter can then be fastened to the head with a bandage, or a cord may be tied tightly around it near the nose and cut off.

It seems to me that this is the simplest and safest method of plugging the nasal cavity. And it is so easy to remove it, all you have to do is to let the air or water out, twist slightly and withdraw the bag. When properly done it is the most cleanly and least objectionable of any method that I have seen described.

It might be well in some cases to use two condoms in making this apparatus, slipping one bag into another, to prevent, after operations, sharp spiculæ of bone from cutting through and spoiling the bag.

If any physician fears his moral integrity might be called in question by carrying about with him Dr. Condom's invention, he can cut one inch or two from the open end of the long bag and have left all he needs to plug the nose with.

Progress of Medical Science.

Uric Acid in the Blood.—Sir A. Garrod showed some years ago that during an attack of gout the blood contained appreciable quantities of uric acid. Abeles and Saloman have corroborated these experiments. In the *Deutsche Medicinische Wochenschrift*, No 23, of this year, Professor von Jaksch, of Prague, whose valuable researches on the blood are well known, publishes an interesting paper on the occurrence of uric acid in the vital stream. He considers mainly two points. 1. Whether uric acid takes a prominent part in the "acid intoxication" described by himself, Peiper, and others. 2. Whether it is only in attacks of gout that uric acid occurs in the blood. The blood was tested by Salkowski's and Ludwig's method, which Jaksch considers to be very accurate. The total number of patients on whom observations were made was one hundred and five. In nine cases of perfect healthy individuals no trace of uric acid could be detected, neither were there any xanthin derivatives present. In nervous affections, such as tabes, multiple sclerosis, polyneuritis, and tumors of the brain, the results were also negative; on the other hand, in such cases the blood frequent contained compounds of xanthin, especially hypo-xanthin. Nine of the one hundred and five cases were patients suffering from enteric fever, but uric acid was never found in the blood; in one case, however, in which the temperature had fallen, small quantities were discovered. In a case of irregular intermittent fever the results were analogous; during the febrile attack no uric acid could be detected, but in the intervals it was present. Diseases of the liver, intestinal tract, and stomach only led to "uricacidæmia" (as Jaksch calls this condition) when there was profound anæmia. Uric acid was found in the blood in cases of heart disease in which there was much cyanosis. In affections of the lungs and pleura it was most frequently detected in emphysema, and when there was pleural exudation. It occurred constantly and in considerable quantities during the febrile stage of pneumonia (five cases). In acute rheumatism it was never found. Fair quantities were present in renal disease—the different forms of nephritis. amyloid degeneration, etc. Considerable amounts were also observed in cases of marked anæmia, both primary and secondary. With regard to the second question, therefore, Jaksch comes to the conclusion that uricacidæmia is not pathognomonic of gout; as to the first question, he concluded that uric acid is not often found in febrile "acid intoxication," but that it may be so. It is important to notice that all morbid processes leading to overloading of the blood with carbonic acid also produce this condition, and the greater the cyanosis the more uric acid is found. Therefore it would seem that we must ascribe the presence of uric acid to a disturbance of the interchange of gases in the lungs, such as occurs so largely in pneumonia. How are we to reconcile with this statement the occurrence of uric acid in the blood in nephritis and anæmia? To this question Jaksch answers that in both these diseases the red blood-corpuscles, whose duty it is to further oxidize uric acid, are deficient. He concludes by making the general statement that uricacidæmia is due to disorders of the red blood-corpuscles, the vehicles by which oxygen is carried. —*The Lancet.*

Treatment of Habitual Constipation.—Professor Nothnagel considers the three most important elements in the treatment of habitual constipation to be massage of the abdomen, electricity, and abundant exercise. Abdominal massage cannot be properly performed by the patient upon himself, the effort required causing contraction of the abdominal muscles, which prevents deep pressure and manipulation. An efficient substitute for a masseur is a metal ball, weighing from three to six pounds and covered with cloth to prevent chilling the skin. The patient should every morning roll this over the course of the large intestine for five or ten minutes, beginning in the right iliac region. Professor Nothnagel believes that in the end massage is invariably of service, but that we must not expect much benefit for weeks, and perhaps months. As cases of long duration react but slowly to almost all methods of treatment, we must (in order to guard against the results of fecal accumulation) have resort to laxative mineral waters, drugs, or enemata. Nothnagel believes it better, under these circumstances, to avoid drugs, and only to use an enema, either of pure water or one containing common salt, olive oil, or preferably, glycerine. Acid fruits should be freely taken, along with a nutritious and easily digested diet. Should a vegetable laxative be called for, notwithstanding these remedial measures, Nothnagel recommends a pill composed of podophyllin and the extracts of aloes, rhubarb, and taraxacum.—*Medical News.*

Severe Traumatic Sciatica Cured by the Removal of a Spiculum of Bone from the Edge of the Great Sacro-sciatic Foramen.—At a recent meeting of the Clinical Society of London, Mr. Bland Sutton communicated the details of this case. The patient was chief mate of a sailing vessel; soon after leaving St. Vincent the head of his left thigh-bone was dislocated by a "derrick-boom" falling upon him. An earnest but rough attempt was made by the crew, directed by the captain, to reduce the dislocation; but this failed. A few days later reduction was effected, under chloroform, at a hospital in the Canary Islands. After the accident the patient suffered great pain in the thigh and leg, in the course of the sciatic nerve and its subdivisions. This he endured for six months. When the patient came under Mr. Sutton's care an exploration of the great sacro-sciatic foramen was made by an incision through the buttock, the patient being placed in the position of a body when the gluteal region is being dissected. This position greatly facilitated the steps of the operation. A spiculum of bone, 15 mm. long, was found at the edge of the foramen, in such a position that its point was pressed into the nerve when the limb was extended. The spiculum was removed with bone forceps, the cut edges of the gluteus carefully sutured with gut, and the wound closed. The patient made a rapid recovery, lost all his pain, and in a few weeks resumed his occupation.

Cystitis in Diabetes.—Dr. R. Schmitz draws attention to the occasional presence of cystitis in diabetes. It takes its origin apparently from the saccharine urine within the bladder partly decomposing and passing into a state of fermentation. If the vesical condition is favorable, the fermentation can be kept up, and recovery, or even improvement, is scarcely to be hoped for as long as the glycosuria lasts. In the chronic form Schmitz distin-

guishes three degrees. The first is very mild, with no subjective symptoms; and the urine is somewhat turbid, faintly acid, with numerous mucus corpuscles, and a few pus cells. From this the second develops, when the urine is more turbid and has an unpleasant odor. Its reaction is weakly acid or neutral, and it contains many mucus and pus corpuscles, triple phosphates, and bacteria. Subjectively, there is increased frequency of micturition. The third form is a more advanced stage of this. All the contents mentioned above are in greater amount; gas is formed in the bladder and passed by the urethra; and the subjective symptoms are more urgent. In many of these cases, according to Schmitz, the patients come under observation first for vesical catarrh, and the primary disease is apt to be overlooked. The prognosis of the first and second stages is good, while the third is not so favorable. It depends whether we are able to cure the diabetes or reduce it to a minimum, and this forms the most important indication. The cystitis ought to be treated energetically by frequent washing out of the bladder with a solution of salicylate of sodium to prevent decomposition and fermentation, combined with the internal administration of the same substance. This treatment should be continued until the urine becomes clear. The acute form of cystitis occurs rarely in diabetes. Schmitz quotes the case of a previously healthy lady who was taken ill with a rigor, a temperature of 104° F., symptoms of acute cystitis, urgent desire to pass water, great pain on micturition, retention, and the appearance of dark scanty urine. No cause could be assigned. Ten days after, when she was improving slowly, she was seen by Schmitz, and then the urine contained mucus, pus, phosphates, and four per cent. of sugar. On a rigid anti-diabetic diet and salicylate of sodium the sugar disappeared, and with it all traces of the cystitis.—*Berliner klinische Wochenschrift.*

Effect of Certain Substances on the Red Corpuscles.—M. Mayet, of Lyons, read a paper at the recent meeting of the French Association for the Advancement of Science, in which he gave an account of the effects of various neutral salts and of chloral on the red corpuscles of the blood. Solutions of the strength of one or two per cent. of chloride of sodium. chloride of potassium, sulphate of soda, phosphate of soda, bicarbonate of soda, and sulphate of magnesia, all at first temporarily destroy the elasticity of the corpuscles, and then dissolve or disintegrate the stroma. Solutions of the strength of five per cent. or more diminish the size of the corpuscles and harden them. The chloride of sodium has the most preservative primary action, but is most destructive on prolonged contact. As is well known, it has been recommended for washing the blood (in a 0.6 per cent. solution), in certain cases of poisoning. Sulphate of soda has a great tendency to preserve the chemical properties of the corpuscles, but makes them much more rigid than does chloride of sodium. It is not suited for intravenous injections, but is very useful in the laboratory for washing the corpuscles before preparing hæmoglobin from them. For this purpose it is better than the three per cent. solution of chloride of sodium, which is commonly employed, but which has a considerable tendency to dissolve the corpuscles. Chloride of potassium has a great preservative action, but cannot be used for intravenous injections owing to its toxicity. Carbonate of soda in weak solutions is very preservative. Phosphate of soda in weak solutions renders the corpuscles rigid for a long time; it preserves their form well, and so is useful in diluting the blood for the purpose of counting the corpuscles. Sulphate of magnesia does not dissolve them, but changes their shape more than any of the other salts. Hydrate of chloral is very destructive to the corpuscles when it is in a concentrated solution, but not when it is of less strength than five per cent. Intravenous injections of the latter, which may be repeated several times daily, are very valuable in tetanus, in uræmic convulsions, to calm the violent spasmodic attacks in rabies, and in some painful diseases where hypodermic injections of morphia are inefficacious or badly borne. Of course the effects on the heart, respiration, and urine must be carefully watched.—*The Lancet.*

The Free Acid of the Gastric Juice during Digestion.—Dr. Von Jaksch finds that free hydrochloric acid is present in considerable quantity as early as a quarter of an hour after the ingestion of food. The quantity depends on the character of the food, and usually reaches its maximum in from one to three hours. This increase, however, is not a steady one, but shows intermissions after the first hour and a quarter, hour and a half, or even two hours. It is always most rapid on a meat diet, slower on milk diet, and slowest of all on a pure carbohydrate diet. The greatest quantity of acid found in any one case—0.1615 per cent.—was obtained on a milk diet—(fourteen observations), slightly less on a meat diet—0.1563 per cent.—(eleven observations), and least of all on a carbohydrate diet—0.1102 per cent.—(ten observations). Digestion appears to be completed most rapidly on a meat diet, next in order coming carbohydrate and milk diet. He concludes that entire absence of free hydrochloric acid from the gastric juice, or its presence in traces only, during the first quarter to half an hour of digestion, is without pathological significance. If no free acid is present one to three hours after ingestion of meat or milk, it is extremely probable that some severe disturbance of gastric function exists. On a carbohydrate diet, on the other hand, the presence of a mere trace of free hydrochloric acid is quite consistent with conditions of health. Furthermore, we are not justified in concluding that the presence of free acid in considerable quantity two to three hours after ingestion of meat or milk points to some pathological condition, as wide variations are possible within physiological limits.—*The British Medical Journal.*

Observations on Certain Forms of Intestinal Obstruction.—Dr. Jessett announces the following conclusions, based on a wide experience (*The Medical Press*): 1. Obstructions of the intestines the result of constricting bands of volvulus are always met with either in the small intestine or the sigmoid flexure. 2. The most common cause of bands is old peritonitis, local or general; Meckel's or other diverticula may be the cause of constriction of the bowel by snaring or twisting. 3. The predisposing causes of volvulus consist in elongation of certain segments of the intestine, abnormal length of the mesentery, adhesions, or unequal peristaltic action. 4. The higher in the intestine the obstruction the more severe usually are the symptoms. 5. All cases of obstruction should be treated by early abdominal section, and if possible reduction of the constricted portion of the intestine by dividing of constricting bands or untwisting a volvulus, that is if the gentle insufflation of hydrogen gas fails to effect reduction. 6. In all cases where the intestine is very distended, it should be freely incised and its contents evacuated. 7. In all cases in which the constriction is irreducible lateral anastomosis by approximation discs should be practised so as to exclude permanently the seat of obstruction from active fecal circulation. 8. In cases where gangrene has taken place in the loop of constricted intestine it should be excised, and the portion of intestine above and below the seat of constriction should be united by lateral anastomosis by approximative plates; the divided ends being invaginated into themselves. 9. All bands and diverticula should be removed, when practicable, at the time of the operation; in the case of volvulus, if the mesentery is abnormally long it should be shortened. 10. That enterostomy, or the formation of an artificial anus, should never be performed unless it is found to be absolutely impracticable to re-establish the continuity of the intestinal canal by dividing the constricting bands by enterorrhaphy or by means of lateral apposition as described.

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & Co., Nos. 56 and 58 Lafayette Place.

New York, January 17, 1891.

THE LYMPH AND ITS REACTIONS.

THE publication of Professor Koch regarding the composition of the lymph, considering the great expectations which have been aroused concerning it, is rather disappointing than otherwise. With few exceptions his statements have been already anticipated, and in many other respects no new facts have been added to those that have been accumulating during the past few months.

Aside from the mention of the ingredients contained in the fluid we are in little if any better condition as to the possibility of its production in our own laboratories than we were before. Still, the information, as far as it is given, will add much interest to the study of the results of lymph treatment in their relations to the supposed causes of their production. In other words, we are so much the better enabled to think for ourselves, and so much the more encouraged to work in accumulating data by which the new theory must stand or fall. We are making enough progress in the latter direction to take courage accordingly, and hope for the best in the direction of eventually settling many of the mooted points of a startling revolutionary doctrine.

Much of the interest of our investigations has centred upon the value of the reactions, general and local, as diagnostic of tuberculosis in various parts of the body. Although the reactionary phenomena have been quite uniform they have proved to be far from absolutely so. In numerous exceptional cases patients with well-marked phthisical symptoms have failed to respond to the diagnostic test, while the contrary has been true with patients who have been suffering from other than tuberculous diseases, or who are, in the general acceptance of the term, perfectly healthy. It is in no spirit of adverse criticism that such conditions have been noted, but rather with a feeling of disappointment that earlier anticipations have not been more fully realized. We are being forced to the conclusion that the value of the local and general reactions are more relative than positive, and that many modifying circumstances must necessarily be taken into account.

Then as to the supposed mode of action of the lymph in destroying tuberculous tissue, or scattering the bacilli, there is opportunity for much difference in opinion. The doctrine of specific action is losing rather than gaining ground in the light of present clinical experience here and abroad. Fortunately, the autopsies have been few, and pathological opportunities have been limited. So far there have been few lesions peculiar and striking enough to show any direct relations of cause and effect in the use of the remedy. Many observers have noted no changes whatever in tuberculous joints opened by surgical operation after the lymph has done its reactionary work, while others have described degenerative changes which may or may not have existed before the inoculation treatment was commenced. The examinations of lung lesions have shown equally various conditions from that of limited areas of injection around decomposing tubercular masses, as usually seen in cases under ordinary treatment, to that of extensive infiltration of neighboring tissue. The latter phenomena have been described also in connection with tubercular diseases of the larynx, where suffocation has been thereby threatened, and particularly in cases of lupus, in which the turgidity of surrounding parts has been almost the rule, and has been associated with incrustation of the surface.

While such effects confirm the predictions of Professor Koch regarding local reactions, and encourage further study, we have as yet made no notable progress in ultimately curing tuberculosis, or in proving that the lymph acts differently from any other substance containing an active albuminoid substance capable of producing systemic poisoning with local manifestations. Theorizing on this basis, it would be legitimate to assume that any organic poison, similar to that which the lymph contains, would attack most strongly a weakened body, such as we find in tuberculous patients. The parts invaded by a degenerative disease, and necessarily most lacking in vitality, would be the first to be affected. As a consequence, strong reactions might easily occur in the shape of increased local congestions and infiltrations, with the usual attendant phenomena of an augmented general febrile disturbance. From such a stand-point it may not be difficult to understand how the tuberculous tissue as such might be killed independently of any elective action of the lymph.

At best, we must admit that the simple destruction of the diseased tissue, even if such can always be assured, is but a part of a very complex process of cure for tuberculous disease. Something more is required than mere injections and resulting reactions.

From what we now know of the cause of tuberculosis we can safely venture to say that no cure can be guaranteed until we can prove our ability to kill the bacilli in the human body. When this latter is possible there will be hope even for the most advanced cases. At best we can now get rid of the bacilli only in an indirect, and not always certain or complete, manner by burying them in decomposing tuberculous tissue and sloughing them away in the current of expectoration. When such cannot be done the bacilli remain in a more or less quiescent condition, awaiting their opportunities for further mischief.

While we may congratulate ourselves that we have even progressed thus far, we have scarcely taken more than a first step. Much more difficult tasks are the safe elimination of the rapid local decomposition occasioned by the lymph and the subsequent reparation of the invaded parts. Already we are told that in cases of tuberculous joints and glands relief can be obtained ultimately by surgical measures only.

So far our main hopes for permanent cure of lung

disease are based upon the well-known efforts of nature to rid herself of the decomposed products by expectoration, while the general strength of the patient is being maintained by the most powerful tonics and the most assimilable nutrients. While thus the lymph may aid us in one direction by hurrying the initiative processes, we are driven in the end to help ourselves by resorting to the ordinary but good old-fashioned methods. We have scarcely gone beyond this at the present stage of our inquiry, awaiting as we are the proofs that the new method of cure is quicker and surer than the old one.

What becomes of the bacilli which are not directly affected by the lymph treatment is a question of considerable importance. The statement of Virchow that when they are routed they are scattered in adjoining sound tissue is doubtless backed by a careful and intelligent study of post-mortem appearances. Although it would appear to be exceedingly difficult to prove that these migrations might not have occurred in the natural way, and independently of the action of the lymph, the contrary possibility might be reasonably entertained. Until, however, more definite facts than those already offered are given it will be well to suspend judgment.

RECIPROCITY IN MEDICAL PRACTICE.

The Swiss Government not long ago withdrew the permission to practise which it had previously granted to English physicians resident in different health resorts of the country, and declared that they had no right to treat the sick, whether their own countrymen or Swiss, without having been properly qualified by the university authorities. This edict was made to apply to all foreigners, but as the holders of British diplomas were the principal sufferers some of the English journals took the matter up, seemingly very indignant that any government in the world should deny an Englishman the right to do as he pleased. They could not conceive that anyone should question the value of a British diploma, so concluded that the prohibition was not imposed because of mistrust of the competency of the British practitioner, or of the diploma which he might hold, but that it was simply a measure of protection adopted in order to lessen competition against the native doctors and to make business for the Swiss medical schools.

There can be little doubt that that is the true explanation of the action of the Swiss, and also of the French Governments in denying foreign doctors the right to practise without getting a Swiss or a French diploma. The English doctors propose to retaliate in kind, and it is very proper that they should do so, for giving away valuable privileges while getting nothing in return may be very virtuous, but it is not sensible. The principle of reciprocity underlies other questions than that of the tariff. If the Swiss and the French will not accept British diplomas the English are right in refusing to recognize Swiss and French qualifications, and we hope they will persist in their refusal until their own diplomas are recognized in Switzerland and in France.

But why, then, should the English and the French complain, as some have, because their diplomas and licenses are no longer to be recognized as entitling them to practise in the different States of our Union?

A NEW METHOD FOR THE RELIEF OF HERNIA.

Reference was made in these columns a few months ago to a recent paper by Dr. William T. Bull on radical operations for hernia, in which it was shown that the percentage of permanent cures was really quite small, and that the operation gave, in a large proportion of cases, only temporary relief. This was no news to those who have much to do with hernia, however disappointing it may have been to those whose faith rested solely on the reports of enthusiastic operators published before the results of their methods had been put to the test of time. There is, however, no reason to despair of ever attaining a permanent cure of hernia by operative means, merely because the methods hitherto employed have failed to come up to the anticipations of their originators. The possibility of a radical cure of hernia is certainly not beyond a rational and reasonable imagination, and past failures offer no excuse for discouragement or for refusing to study new modes of operating and to compare their results with those obtained by the older methods.

Dr. Edoardo Bassini, of Padua, has recently published a memoir[1] descriptive of a new method devised by himself, by means of which he believes that much more certain and permanent results can be obtained than have yet been by the older operations. The object after which he strives is to restore the inguinal canal as nearly as possible to its normal shape and direction, making it run obliquely as in health, and giving to it its two walls between which the spermatic cord shall pass.

We will describe this operation briefly, omitting of necessity most of the details and the various modifications adopted by the author in order to meet special indications. The aponeurosis of the external oblique, overlying the inguinal canal, and the pillars of the external ring are first exposed. Then, after all bleeding has ceased, the aponeurosis is incised over the whole course of the canal, from the external to the level of the internal ring, and is dissected out from the contiguous structures so as to form two flaps which are folded back to expose fully the underlying tissues. The spermatic cord is now drawn out and separated from the neck of the sac as far back as may be into the inguinal fossa. After this the sac itself is opened, adhesions, if any be present, are broken up, and if there be thickened omentum it is usually excised. The hernia being reduced, the neck of the sac is twisted and ligated, and the portion below the ligature is cut off. This completes the second stage of the operation.

The third step consists in dissecting away from the aponeurosis and adipose layer above and below the outer margin of the rectus muscle and the triple layer formed by the internal oblique and transversus abdominis muscles and Scarpa's fascia. The flap so obtained is now drawn over and attached firmly by interrupted silk sutures to the posterior border of Poupart's ligament, forming thereby the posterior wall of the canal over which runs the spermatic cord. The final stage of the operation consists in reuniting the divided portion of the ex

[1] Nuovo Metodo Operativo per la Cura dell' Ernia Inguinale, pel Dott. Edoardo Bassini, Professore Ordinario di Clinica Chirurgica. Padova. R. Stabilimento Prosperini, 1889.

ternal oblique aponeurosis by interrupted sutures. A new canal is thus formed for the passage of the spermatic cord, and the abdominal wall is able to resist any attempt at redescent of the hernia without the aid of a truss. The external wound is now closed, antiseptic dressings are applied, and the operation is complete.

Dr. Bassini publishes a table of his operations and the results obtained. He had treated 251 cases of non-strangulated hernia, of which 108 remained cured at periods of from one to four and one-half years after the operation. In 131 cases operated upon from a month to a year before the tables were compiled there had also been no relapse. Four patients had been lost sight of, in seven cases there had been a reappearance of the hernia, and one case died of causes unconnected with the operation. Encouraged by these results the author feels justified in bringing his method to the notice of the profession and asking that a trial of it be made by others who may be dissatisfied with the older operations.

News of the Week.

Peptonuria after Koch's Injections.—According to a communication made by Professor Koehler at the last meeting of the Vienna Society of Physicians, the toxic effect of Koch's lymph is marked in some cases by the presence of peptones in the urine of the patients who have been injected. In 33 out of 200 cases the presence of peptones could be tested; also in 2 cases of non-tuberculous patients who had been injected for control, peptonuria occurred after the injection, though no reaction could be observed.

The Efficacy of Koch's Fluid in Tuberculosis of Cattle is about to be tested.

Honors to Medical Men.—Dr. Quain has received a baronetcy, and Professor Humphrey, of Cambridge, has been knighted.

A Curious Field of Work for Women.—Dr. P. N. Parnowskaja, a Russian female medical practitioner, has been awarded a gold medal by the Moscow Society of the Friends of Natural Science, Anthropology, and Ethnography, for her work on the "Anthropology of Prostitutes and Female Thieves."

Miss Garrett's Liberality.—Of the $100,000 raised to endow the Johns Hopkins Medical College, $48,000 was given by Miss Garrett.

A Dispensary for the Treatment of Diseases of Women by Electricity.—A dispensary for the treatment of the diseases of women amenable to electricity has been opened in Philadelphia.

Medicos Under the Microscope.—Under this title the editor of a London lay journal announces a series of special articles intended to serve "as a guide which will steer the neophyte clear of incompetent or semi-incompetent men into the safe harborage of the consulting room of the doctor who combines the essential qualities of ability, experience, and high character." "It must," he adds, "be absolutely understood that the gentlemen whose pen-portraits will be given, have in no way assisted at, or even consented to their own delineation."

A New Journal Devoted to Koch's Treatment.—From January 1, 1891, a new journal is announced to appear under the title "Central Zeitung für das Koch'sche Heilverfahren." It is to be devoted, as the name implies, to anything pertaining to the cure of tuberculosis and other infective diseases.

The Longest Medical Courses are given at the Buddhist's Lamas' University in Thibet. The student has to study for ten years. According to *Nature*, a traveller named Ptitsyn has returned from that country with a collection of medical books and drugs illustrative of the knowledge and the methods of practice in Thibet. Mr. Ptitsyn remarks that he has found over one hundred diseases described in the Buddhist literature, and of these a mythical origin is ascribed to only two. Strictly medical subjects are not studied until the fifth year of the course, the first four years being devoted to the study of the languages and theology. The eighth year is devoted to astrology, and philosophy is studied in the last two years.

Surgery and Exact Science.—The late Professor Syme was in the habit of expressing his opinion that surgery would never be an exact science, and that perfection was unattainable, because silly folks were always trying to invent new plans of treatment to replace the sadly few absolutely successful methods. One of his examples used to be the treatment of hydrocele by injections of iodine; another the ligature of the superficial femoral for popliteal aneurism. His views receive curious confirmation, for in the *Medical News* of Philadelphia, received November 29th, we find a paper on the alarming and fatal results following attempts at the radical cure of hydrocele; and in the *British Medical Journal* of same day a paragraph, by a young surgeon, advising ligature of the popliteal instead of ligature of the superficial femoral for popliteal aneurism.—*Edinburgh Medical Journal.*

Proposed Medical Legislation in Pennsylvania.—The present registration law of Pennsylvania is said to be almost a total failure. According to the *Times and Register* another attempt will be made during the coming session of the Pennsylvania Legislature to procure the passage of an act creating a Board of Medical Examiners. The proposed bill places the appointment of members entirely in the hands of the governor; the only restrictions to his choice being those relating to legality and date of graduation, and freedom from alliances with medical colleges. A new clause provides that no two of the nine examiners shall be residents in the same county. This opens the field to the country members, and cuts Philadelphia, with her 2,000 physicians out of 8,000 in the State, down to a single representative.

Bequests to Charities.—The late Mrs. Elizabeth P. Fogg has bequeathed to the New York Hospital, $20,000, and to the Metropolitan Throat Hospital, $10,000.

A New Diploma Mill, called the "Union Medical Institute," has been discovered at Newburg. Its diplomas are offered for $50.—*Medical Standard.*

A Versatile Practitioner.—The following advertisement appears in the columns of an English newspaper: Michael Keena, of Friarstown, Parish of Meedin, four miles from Tyrrellspass, four from Rochford Bridge, three from Castletown-Geoghegan. I propose to cure by herbs — water gravel, kidney gravel, rheumatism, blast piles inwardly and outwardly, falling sickness, any person wishes to have the blight stopped on their potatoes, the toothache, soft and hard corns. If you wish to have your hens laying in winter, apply to me.

A Hygienic Institute for Philadelphia.—A contract has been signed for the erection of a building for hygienic instruction, as an annex to the University of Pennsylvania, to cost $50,000. The entire expense will be borne by Henry C. Lea, and it will be the finest structure of the kind in America, and the finest hygienic institution in the world. The building is to occupy a space of 160 by 182 feet. It will have fifty windows to each floor, and the plumbing and other sanitary arrangements are to be perfect.

The Production of Immunity from Diphtheria.—Drs. E. A. Von Schweinitz and W. M. Gray, of Washington, D. C., write to the *Medical News* that they have succeeded in obtaining a chemical substance which renders guinea-pigs treated with it insusceptible to diphtheria upon subsequent introduction of the strong virus into the system, while the control guinea-pigs died in from twenty-four to forty eight hours. They further believe that the experiments being made will demonstrate that we have a substance which will serve to control or prevent diphtheria in man.

Bulletin of the American Academy of Medicine.—The Academy has adopted the excellent plan of publishing occasional bulletins containing reports of special work. The first issue contains the abstract of a report on the comparative value of the academical degrees in our American colleges. This report shows that the degree of A.B. in America is given by at least three hundred and forty-two institutions, and that there is as much difference in the requirements for graduation as there is among medical colleges. This fact is so strikingly true that the committee recommends to the Academy the adoption of a standard for the degree of A.B., below which standard no diploma will be recognized.

The Hypodermic Injection of Oxygen.—Dr. Francesco Valenzuela, physician to the Provincial Hospital, Madrid, has just published in *El Siglo Médico* a paper on new methods of administering oxygen, with especial reference to the treatment of senile pneumonia. Believing that oxygen inhaled in dyspnœa fails frequently to relieve because it does not come in contact with a sufficiently large vascular surface, he began administering the gas per rectum and also hypodermically. In every case in which the oxygen enema was given the dyspnœa was relieved in a decided and permanent manner. The ease and rapidity with which the gas was absorbed by the intestine were very remarkable. Oxygen, indeed, appeared to be as readily taken up by the intestine as by the lungs, four injections of five litres each being absorbed in an hour, thus proving the intestinal mucous membrane to be capable of serving as a most valuable adjunct to that of the lungs. In employing oxygen hypodermically Dr. Valenzuela believes it to be important to introduce the gas in its nascent state. The situation selected for the puncture was the arm, and the quantity of gas introduced varied from half a litre to a litre. Cellular emphysema was of course produced, and a sensation of heat was complained of, but both disappeared entirely in the course of a few hours. There was no calmative action or slowing of the respiration, but there was a marked stimulating action on the heart, such as is indicated in the collapse that follows pneumonia or fevers of a typhoid character, also in cerebral congestion and asphyxia. No indication is given of the temperature at which the oxygen is introduced, a point which, according to Dr. B. W. Richardson, is of great importance. Perhaps the Spanish observer, who does not appear to be aware of Dr. Richardson's work, is mistaken in ascribing the advantage gained by using oxygen prepared *ad hoc* to its being nascent, whereas it is probably due to the temperature being high. It will be noted that Dr. Valenzuela confirms Dr. Richardson's statement that oxygen is relaxant and eliminative.—*The Lancet.*

The Hospital Sunday Collections this year have so far amounted to nearly forty thousand dollars.

Chicago as a Place for Doctors.—The secretary of the Illinois State Board of Health, in his recent quarterly report, states that there has never been such a rush of medical men to Chicago as during the past three months. More than two-thirds of the certificates issued were to physicians who wished to practise in Chicago. And never before in the same length of time have so many professional frauds attempted to obtain a foothold in Chicago. It is evident that the increase of population, and especially the coming World's Fair, are the attractions. Eleven applicants were refused licenses because they had diplomas from schools not in good standing, because their professional records had been tarnished elsewhere, or because they could not comply with the requirements of the Board. The anxiety to settle in Chicago is also manifest in the incorporation of so called medical companies, medical associations, and dispensaries, thus taking advantage of the lax laws and attempting to evade the Medical Practice Act. New York, not having the World's Fair, will take pleasure in sending on her medical men that will not be missed here.

Chair of Otology in the University of Pennsylvania.—Dr. Burton Alexander Randall has been appointed Clinical Professor of Otology in the University, to succeed Dr. George Strawbridge, who resigned some months ago on account of ill health.

German Congress of Internal Medicine.—The Tenth Congress of Internal Medicine will be held at Wiesbaden from April 6th to 9th, 1891, under the presidency of Professor Leyden, of Berlin. Among the subjects already in the programme are the following: "Gall-stones" (to be introduced by Professor Naunyn, of Strassburg, and Fürbringer, of Berlin); and "Angina Pectoris" (to be introduced by Dr. A. Fraenkel, of Berlin, and Dr. O. Vierordt, of Heidelberg). Addresses will also be delivered by Dr. T. Schott, of Nauheim, on the "Differential Diagnosis of Pericardial Exudation and Dilatation of the Heart;" and by Professor Kahler, of Vienna, on "Intermittent Albuminuria."

THE COMPOSITION OF KOCH'S LYMPH.

What Professor Koch Says It is, and What It Can Do.

(By Cable to the MEDICAL RECORD.)

BERLIN, January 15, 1891.

THE curiosity to know the composition of the famous lymph has been gratified by the publication to-day of an article by Professor Koch on the subject. In the following, as will be seen, he reaffirms his original convictions and acknowledges the valuable assistance he has received from those who have used his fluid, and thus helped him in the accumulation of experience.

Professor Koch says: Two months ago I published the results of my experiments with the new remedy for tuberculosis, since which time many physicians who received the preparation have been enabled to become acquainted with its properties through their own experiments. So far as I have been able to review the statements published and the communications received by letter, my predictions have been fully and completely confirmed. The general consensus of opinion is that the remedy has a specific action upon tubercular tissues, and is, therefore, applicable as a very delicate and sure reagent for discovering latent and diagnosing doubtful tuberculous processes. Regarding the curative effects of the remedy, most reports agree that, despite the comparatively short duration of its application, many patients have shown more or less pronounced improvement. It has been affirmed that in not a few cases even a cure has been established. Standing quite by itself is the assertion that the remedy may not only be dangerous in cases which have advanced too far —a fact which may forthwith be conceded- but also that it actually promotes the tuberculous process, being therefore injurious.

During the past six weeks I myself have had opportunity to bring together further experiences touching the curative effects and diagnostic application of the remedy in the cases of about one hundred and fifty sufferers from tuberculosis of the most varied types in this city and in the Moabit Hospital. I can only say that everything I have latterly seen accords with my previous observations. There has been nothing to modify in what I before reported. As long as it was only a question of proving the accuracy of my indications it was needless for anyone to know what the remedy contained or whence it was derived. On the contrary, subsequent testing would necessarily be more unbiassed the less people knew of the remedy itself. Now, after sufficient confirmatory testing, the importance of the remedy is proved, my next task is to extend my study of the remedy beyond the field where it has hitherto been applied, and if possible to apply the principle underlying the discovery to other diseases.

This task naturally demands a full knowledge of the remedy. I therefore consider that the time has arrived when the requisite indications in this direction shall be made. This is done in what follows.

Before going into the remedy itself, I deem it necessary for the better understanding of its mode of operation to state briefly the way by which I arrived at the discovery. If a healthy guinea-pig be inoculated with the pure cultivation of German Kultur of tubercle bacilli, the wound caused by the inoculation mostly closes over with a sticky matter and appears, in its early days, to heal. Only after ten to fourteen days a hard nodule presents itself, which, soon breaking, forms an ulcerating sore, which continues until the animal dies. Quite a different condition of things occurs when a guinea-pig already suffering from tuberculosis is inoculated. An animal successfully inoculated from four to six weeks before is best adapted for this purpose. In such an animal the small indentation assumes the same sticky covering at the beginning, but no nodule form. On the contrary, on the day following, or the second day after the inoculation the place where the lymph is injected shows a strange change. It becomes hard and assumes a darker coloring, which is not confined to the inoculation spot but spreads to the neighboring parts until it attains a diameter of from 0.05 to 1 ctm.

In a few days it becomes more and more manifest that the skin thus changed is necrotic, finally falling off, leaving a flat ulceration which usually heals rapidly and permanently without any involvement of the adjacent lymphatic glands. Thus the injected tubercular bacilli quite differently affect the skin of a healthy guinea-pig from one affected with tuberculosis. This effect is not exclusively produced with living tubercular bacilli, but is also observed with the dead bacilli, the result being the same whether, as I discovered by experiments at the outset, the bacilli are killed by a somewhat prolonged application of a low temperature or boiling heat or by means of certain chemicals. This peculiar fact I followed up in all directions and this further result was obtained—that killed pure cultivations of tubercular bacilli, after rinsing in water, might be injected in great quantities under healthy guinea-pigs' skin without anything occurring beyond local suppuration. Such injections belong to the simplest and surest means of producing suppuration free from living bacteria.

Tuberculous guinea-pigs, on the other hand, are killed by the injection of very small quantities of such diluted cultivations. In fact, within six to forty-eight hours, according to the strength of the dose, an injection which is not sufficient to produce the death of the animal may cause extended necrosis to the skin in the vicinity of the place of injection. If the dilution is still further diluted until it is scarcely visibly clouded, the animals inoculated remain alive and a noticeable improvement in their condition soon supervenes. If the injections are continued at intervals of from one to two days, the ulcerating inoculation wound becomes smaller and finally scars over, which otherwise it never does; the size of the swollen lymphatic glands is reduced, the body becomes better nourished, and the morbid process ceases, unless it has gone too far, in which case the animal perishes from exhaustion. By this means the basis of a curative process against tuberculosis was established.

Against the practical application of such dilutions of dead tubercle bacilli there presented itself the fact that the tubercle bacilli are not absorbed at the inoculation points, nor do they disappear in another way, but for a long time remain unchanged, and engender greater or smaller suppurative foci. Anything, therefore, intended to exercise a healing effect on the tuberculous process, must be a soluble substance which would be liberated to a certain extent by the fluids of the body floating around

the tubercle bacilli, and be transferred in a fairly rapid manner to the juices of the body; while the substance producing suppuration apparently remains behind in the tubercular bacilli, or dissolves but very slowly. The only important point was, therefore, to induce outside the body the process going on inside, if possible, and to extract from the tubercular bacilli alone the curative substance. This demanded time and toil, until I finally succeeded, with the aid of a forty to fifty per cent. solution of glycerine, in obtaining an effective substance from the tubercular bacilli. With the fluid so obtained I made further experiments on animals, and finally on human beings. These fluids were given to other physicians to enable them to repeat the experiments.

The remedy which is used in the new treatment consists of a glycerine extract, derived from the pure cultivation of tubercle bacilli. Into the simple extract there naturally passes from the tubercular bacilli, besides the effective substance, all the other matter soluble in fifty per cent. glycerine.

Consequently, it contains a certain quantity of mineral salts, coloring substances, and other unknown extractive matters. Some of these substances can be removed from it tolerably easily. The effective substance is insoluble in absolute alcohol. It can be precipitated by it, though not, indeed, in a pure condition, but still combined with the other extractive matter. It is likewise insoluble in alcohol. The coloring matter may also be removed, rendering it possible to obtain from the extract a colorless, dry substance containing the effective principle in a much more concentrated form than the original glycerine solution. For application in practice this purification of the glycerine extract offers no advantage, because the substances so eliminated are unessential for the human organism. The process of purification would make the cost of the remedy unnecessarily high.

Regarding the constitution of the more effective substances, only surmises may for the present be expressed. It appears to me to be derivative from albuminous bodies, having a close affinity to them. It does not belong to the group of so-called toxalbumins, because it bears high temperatures, and in the dialyzer goes easily and quickly through the membrane. The proportion of the substance in the extract to all appearance is very small. It is estimated at fractions of one per cent, which, if correct, we should have to do with a matter whose effects upon organisms attacked with tuberculosis goes far beyond what is known to us of the strongest drugs.

Regarding the manner in which the specific action of the remedy on tuberculous tissue is to be represented various hypotheses may naturally be put forward. Without wishing to affirm that my view affords the best explanation, I represent the process myself in the following manner: The tubercle bacilli produced when growing in living tissues, the same as in artificial cultivations, contain certain substances which variously and notably unfavorably influence living elements in their vicinity. Among these is a substance which in a certain degree of concentration kills or so alters living protoplasm that it passes into a condition that Weigert describes as coagulation necrosis. In tissue thus become necrotic the bacillus finds such unfavorable conditions of nourishment that it can grow no more and sometimes dies.

This explains the remarkable phenomenon that in organs newly attacked with tuberculosis, for instance in guinea-pigs' spleen and liver, which then are covered with gray nodules, numbers of bacilli are found, whereas they are rare or wholly absent when the enormously enlarged spleen consists almost entirely of whitish substance in a condition of coagulation necrosis, such as is often found in cases of natural death in tuberculous guinea-pigs. The single bacillus cannot, therefore, induce necrosis at a great distance, for as soon as necrosis attains a certain extension the growth of the bacillus subsides and therewith the production of the necrotizing substance. A kind of reciprocal compensation thus occurs, causing the vegetation of isolated bacilli to remain so extraordinarily restricted, as, for instance, in lupus and scrofulous glands.

In such cases the necrosis generally extends only to a part of the cells, which then, with further growth, assumes the peculiar form of riesen zelle, or giant cell. Thus, in this interpretation, follow first the explanation Weigert gives of the production of giant cells.

If now one increased artificially in the vicinity of the bacillus the amount of necrotizing substance in the tissue the necrosis would spread a greater distance. The conditions of nourishment for the bacillus would thereby become more unfavorable than usual.

In the first place the tissue which had become necrotic over a larger extent would decay and detach itself, and where such were possible would carry off the inclosed bacilli and eject them outwardly, so far disturbing their vegetation that they would much more speedily be killed than under ordinary circumstances.

It is just in looking at such changes that the effect of the remedy appears to consist. It contains a certain quantity of necrotizing substance, a correspondingly large dose of which injures certain tissue elements even in a healthy person, and perhaps the white blood-corpuscles or adjacent cells, thereby producing fever and a complication of symptoms, whereas with tuberculous patients a much smaller quantity suffices to induce at certain places, namely, where tubercle bacilli are vegetating and have already impregnated the adjacent region with the same necrotizing matter, more or less extensive necrosis of the cells, with the phenomena in the whole organism which result from and are connected with it.

For the present, at least, it is impossible to explain the specific influence which the remedy, in accurately defined doses, exercises upon tuberculous tissue, and the possibility of increasing the doses with such remarkable rapidity, and the remedial effects which have unquestionably been produced under not too favorable circumstances.

Of the consumptive patients whom he described as temporarily cured two have been returned to the Moabit Hospital for further observation.

No bacilli have appeared in their sputum for the past three months, and their phthisical symptoms have gradually and completely disappeared.

Cold Weather and High Death-rate.—The cold weather in England has raised the death-rate in London to thirty per thousand.

THE LYMPH TREATMENT IN NEW YORK.

CASES AT ST. LUKE'S HOSPITAL.

Service of Dr. Francis P. Kinnicutt.

Case X.—Male, aged fourteen. Transferred by Dr. Gibney from the Hospital for Ruptured and Crippled, for treatment by inoculations, December 15th.

Previous History.[1]—Patient has always been delicate. In February, 1890, "left ankle was sprained" in jumping from cart. Much swelling followed and ankle remained swollen and painful up to the date of admission to hospital in October of same year. Ten days previous to admission a spontaneous evacuation of pus occurred.

Examination on Admission.—There is a marked bony enlargement of the lower end of both tibia and fibula (left), with local heat and sensitiveness. On inner surface of tibia, just above ankle joint, there is an ulcer three-quarters of an inch in diameter, and another, somewhat smaller, on outer surface of fibula, from both of which there is considerable purulent discharge. The joint is apparently free from disease. Recommended for operation.

Examination Immediately Prior to First Inoculation.—Patient is anæmic. Examination of lungs, heart, liver, and spleen negative. Examination of urine negative. Temperature normal. There are three cicatrices in left cervical region. Suppuration of glands and spontaneous evacuation occurred at the above points, at intervals, during the past three years. Enlarged insensitive glands are present in both axillæ. There is enlargement of the lower end of both the tibia and fibula (left), with indolent ulcers, of about the size of an English shilling, over the outer and inner aspects respectively of the swelling. There is a scanty, thin, purulent discharge from these. The ankle-joint is evidently not involved, motion in all directions being free and painless.

Inoculations were made on December 16th, 18th, 20th, and 23d of 0.0005 gm., 0.0005 gm., 0.001 gm., and 0.001 gm. They were followed by very moderate systemic and local reactions, the highest temperature recorded being 101⅛° F. The local signs consisted in slightly increased swelling, pain, and sensitiveness at the site of obvious disease. The purulent discharge from the ulcers became more copious and consistent. The temperature in the intervals between the inoculations fell to normal.

A fifth inoculation of 0.0015 gm. was made on December 27th. A sharp general reaction followed, the temperature reaching 102⅘° F., with sweating, headache, etc. There was also greatly increased swelling, pain, and sensitiveness, with reddening of the skin, at the site of disease. A marked swelling of the head of the tibia of the other leg, with pain and sensitiveness, followed; also a doughy swelling, with pain, was developed over the scaphoid bone of the right foot and the enlarged axillary glands became more swollen and painful. A very free discharge of creamy pus occurred from both ulcers and there was much undermining of the contiguous skin. No necrosed bone, however, could be detected by the probe. A copious purulent discharge has continued up to the present date and the other local signs have persisted in the absence of further inoculations. The axillary glands remain swollen and painful. There is moderate continuous pyrexia, with irregular diurnal variations.

The above history presents several points of great interest. The slight effect of the first inoculations is to be noted, and the development, on their repetition in increased strength, of signs of disease in bones in which disease previously had not been suspected. Close questioning, however, elicited the fact that pain had been felt at times during the past three months, both in the head of the tibia and in the right foot, and on one occasion, after a slight strain, temporary swelling had been noticed at the former site. The effect of the inoculations has evidently been to excite an active inflammatory process in tuberculous tissues previously comparatively quiescent.

Inasmuch as appreciable signs pointing to the existence of disease elsewhere than in the lower epiphyses of the tibia and fibula were absent before inoculation, the possibility of promoting cure by absolute rest in structures in which disease was present though quiescent need not be considered.

It is in such cases that the value of the lymph is conspicuous. Latent disease, which we thereby are precluded from treating, but in which there is the ever-present danger of further infection, becomes manifest and offers opportunities for relief, either by medical or surgical means. The records of orthopædic hospitals are filled with histories of cases more or less similar to the above, in which the ultimate issue is general infection and death.

The course apparently indicated in the above case, with our present knowledge of the action of the lymph, is a repetition of the inoculations until failure of reaction points to the probable death of all tuberculous tissue and the subsequent removal of such tissue by surgical means.

[1] I am indebted to Dr. Samuel Smith, the House Surgeon of the Hospital for Ruptured and Crippled, for the above notes.

CASES AT THE ST. JOSEPH'S ORPHAN ASYLUM.

Service of Dr. Edmund Charles Wendt.

General Remarks.—Two new cases have received inoculations during the past week, making the total number of cases fourteen. All the old cases except one have been subjected to reinoculations, and remain under observation. With the exception of two cases in which rather violent symptoms occurred, the reactions, especially as to rise of temperature, have been less marked. It would appear that children develop tolerance to the lymph quite as rapidly as adults. In some cases the pulse was noticed to become quicker and feeble, but anything like alarming collapse has not been observed. It is to be remembered in this connection that the dosage of the lymph is still comparatively small, the largest quantity injected at any one time having been 0.007 gm. Brief references to some of the cases are appended.

Case I., of last report.—This girl's only sister died of phthisis during the week, and there is reason to believe that she herself is already attacked. Finely crepitant râles were heard January 10th on deep inspiration over left upper portion of lung. The febrile reactions following injections have not exceeded 102° F. The dose of lymph is now up to 0.006 gm. Her appetite and general condition are at present better than before treatment was begun. Only occasional slight cough. No expectoration.

Case II., of previous report.—Injections up to 0.007 gm. on January 6th, 8th, 9th, and 11th. Reactions to 102° F. and 103° F., with rapid defervescence to normal temperature. Glands smaller, but show absolutely no local reaction. Erysipelatoid redness around nose several times, quickly subsiding. Nose less thick than formerly. Only slight fetor from ozæna.

Case V.—This girl still reacts rather violently, although the doses of lymph are small.

January 6th, 0.002 gm.; 8th, 0.003 gm.; 11th, 0.0035 gm. On January 10th fine and large crepitant râles were heard for the first time over entire left side of thorax, both in front and behind. After the last injection her gait became staggering, she grew very nervous and restless. Pulse ran up to 160, quite feeble; temperature, 104.2° F. This girl had chorea.

January 12th. Temperature fluctuated between 101.6° F. and 103° F. all day.

January 13th. Temperature 98.2° F. at 11 A.M.

Case VI., of last report.—In this case the lymph also produces rather violent symptoms in small doses, up to 0.0045 gm. Temperature rose to 105.8° F., on January

8th, after an injection of 0.004 gm. Defervescence gradual, and return to normal point only after thirty-six or forty-eight hours. Violent headache and backache were complained of. Pulse weak, appetite impaired. Râles quite variable in extent, changing from day to day. Dry cough. No expectoration.

On January 11th last injection. January 13th, temperature all morning, 97.2° F. Temperatures are always taken in the rectum.

Case VIII., of previous report.—Moderate reactions. Scarlatinal rash has followed every new injection. Supraclavicular glands unmistakably smaller. Slight cough, but no râles.

Case IX., of previous report.—Inoculations, January 8th, 9th, 10th, and 12th, up to 0.002 gm. Reactions moderate up to 102.8° F., on January 10th, and 102.4° F. on January 12th. Subnormal morning temperature has been observed. The corneal opacities are less dense. Ulcerative processes of skin improved.

Case X., of previous report.—January 7th, 9th, and 12th, injections up to 0.002 gm. Has vomited several times. Râles are now audible over several regions of thorax. Scarcely any cough. Highest temperature, 101° F., twenty hours after last inoculation. Temperature in rectum, 98° F. at time of last injection.

crust formation. Glands unaffected. Slight febrile reactions after third and fourth injections. Highest temperature 100.6° F.

Case XIV. *Suspicious Apices, Phthisical Thorax, Cutaneous Ulcerations, Lymphadenitis.*—Boy, aged thirteen. Brother of Case IX. Very flat chested. Retraction of supra- and infra-clavicular region. Harsh breathing at apices. Slight dulness on percussion there. No râles. No cough. Ulcerations about nose and eyes. Glands, under jaw on left side, almond size.

January 11th.—Injection of 0.00025 gm. No reaction.

January 12th.—Injection of 0.00055 gm. Temperature rose to 102° F. in six hours.

January 13th.—Temperature only receded to 100.8° F. this morning.

CASES AT THE MONTEFIORE HOME FOR CHRONIC INVALIDS.

Service of Dr. Simon Baruch.

(Dr. Max Rosenthal, Resident Physician.)

The following table furnishes a graphic statement of the reactions produced by the injections; also the changes of weight during three weeks' treatment.

Table of Injections for Week Ending December 29, 1890.

Number.	Name.	Sex.	December 23d. Temp. Fahr. Highest.	Lowest.	Milligrammes.	December 24th. Temp. Fahr. Highest.	Lowest.	Milligrammes.	December 25th. Temp. Fahr. Highest.	Lowest.	Milligrammes.	December 26th. Temp. Fahr. Highest.	Lowest.	Milligrammes.	December 27th. Temp. Fahr. Highest.	Lowest.	Milligrammes.	December 28th. Temp. Fahr. Highest.	Lowest.	Milligrammes.	December 29th. Temp. Fahr. Highest.	Lowest.	Milligrammes.	Weights. − Lost. + Gained. lbs.
1	D.	M.	100.2	98.6	....	99.4	98.2	....	99.2	98.4	....	99.4	97.6	3	103.2	100.2	....	101.2	98.6	....	99.8	98.4	3	−5
2	G.	M.	99.8	99.0	....	99.8	99.0	....	99.4	98.4	....	99.2	98.2	2	99.8	97.8	....	99.4	97.4	3	99.8	97.6	....	....
3	S.	M.	99.6	99.0	....	99.8	98.4	....	99.0	98.2	....	99.2	98.4	3	99.6	97.6	....	99.2	97.4	4	99.4	98.0	....	....
4	F.	M.	100.0	99.6	....	100.0	99.2	....	99.6	98.4	....	99.4	98.4	3	100.2	98.4	....	99.6	98.2	4	100.6	98.4	....	+2¼
5	F.	M.	100.6	99.8	....	99.0	98.6	....	99.2	98.2	....	99.4	98.4	4	102.6	99.0	....	100.2	97.6	....	99.4	97.2	4	−3
6	S.	M.	101.0	98.4	....	100.4	99.2	....	100.0	98.8	....	100.0	98.6	....	100.0	98.4	3	100.2	98.4	....	99.6	98.6	.. .	+4
7	D.	M.	101.6	99.0	2½	101.0	100.2	....	100.8	99.4	....	100.2	98.2	....	100.2	97.8	....	100.0	98.4	4	101.4	97.6	...	+2
8	F.	M.	100.0	99.2	....	101.0	99.0	....	100.0	98.2	....	100.0	98.0	2	102.0	98.4	....	100.0	98.0	....	100.0	97.8	.. .	+2¼
9	E.	M.	99.0	97.2	....	98.4	97.6	....	98.0	97.6	....	97.8	97.6	....	98.8	....	....	....	....	....	....	....	....	
10	H.	M.	100.0	98.4	....	99.0	98.6	....	99.4	98.6	....	99.2	98.0	...	99.2	98.0	....	99.0	98.0	4	99.8	97.0	....	+½
11	N.	M.	100.2	99.0	....	99.8	98.4	....	100.0	98.4	....	99.8	98.4	3	100.2	98.6	....	101.0	98.2	4	100.0	97.8	....	+¾
12	B.	M.	99.8	98.2	2½	100.2	98.4	...	100.2	98.4	....	99.8	98.4	....	99.4	98.4	3	101.2	98.2	....	100.6	97.2		
13	B.	F.	103.0	98.4	....	101.4	97.4	....	100.0	98.0	....	100.2	98.2	....	99.6	96.6	....	99.4	97.4	...	100.2	98.0		
14	L.	F.	99.6	96.6	....	99.4	98.2	...	100.0	98.4	....	100.0	97.0	3	100.4	97.4	....	99.4	98.0	4	100.0	98.2	....	−2
15	V.	F.	101.2	98.8	....	100.4	98.8	....	100.4	98.4	....	101.0	98.4	....	100.2	98.4	....	102.4	96.6	....	102.0	99.4		
16	R.	F.	100.2	97.6	....	100.4	97.6	....	100.0	98.4	....	101.2	98.2	3	100.4	97.8	...	100.4	98.2	4	100.2	98.0	. .	−1
17	S.	F.	100.0	97.2	....	100.2	98.0	....	99.6	97.0	....	98.0	....	....	100.0	97.0	....	100.6	98.0	....	101.0	98.0	1	+1½
18	W.	F.	100.6	98.8	....	100.4	98.0	....	99.0	98.0	....	101.0	97.0	....	104.0	98.0	3	101.4	98.0	....	100.0	98.2	2	−¾
19	F.	F.	101.8	100.0	....	101.4	98.2	....	102.6	98.6	....	103.0	101.8	....	102.0	98.2	....	103.8	99.2	. . .	104.0	99.0		+¾
20	G.	F.	100.8	97.8	....	100.4	98.0	....	100.4	97.6	....	103.0	99.6	2	100.6	98.8	....	100.6	98.6	2	100.0	98.6	...	+3¾
21	A.	F.	100.2	99.2	....	....	....	....	100.4	98.4	....	100.2	99 6	....	101.0	100.0	....	101.0	100.0	....	100.8	99 2		
22	K.	F.	....	....	....	....	....	....	Normal.			99.2	98.8	1	100.2	98.8	2	99.8	98.2	....	98.6	....	...	−½
23	L.	F.	....	....	....	....	....	....	98.4	98.0	....	98.6	97.8	....	99.4	98.6	1	100.4	98.8	....	98.0	97.6	....	−5
24	S.	M.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	*99.0	98.2	1	+2
25	R.	M.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	†99.4	98.4	1	+1

* 99.4° F. before injection. † 100° F. before injection.

Note.—All these cases are phthisis, except 8 and 9, which are skin and bone tuberculosis.

Case XI., of previous report.—Injections January 7th, 8th, 9th, 11th, and 12th, up to 0.003 gm. Very slight reaction. Temperature fluctuating between 98.4° F. and 100.4° F. Severe headache. A few râles have become audible, otherwise no change in her condition.

Case XII., of previous report.—Injections January 7th, 8th, 9th, and 10th, up to 0.003 gm. Ulcerative cutaneous processes rapidly healing, but glandular enlargement shows no decrease in size. Slight cough, but no râles. Nausea and general symptoms moderately severe, but febrile reaction very slight. Highest temperature 100.4° F.

The two cases which follow are new cases.

Case XIII. *Scrofulous Ulcerations of the Neck, Chin, Lips, and Nose. Lymphadenitis.* — Family history unknown. Fairly well nourished boy. Extensive cutaneous ulcerations of superficial character, moist eczematous patches. Lungs negative. No cough. Injections January 9th, 10th, 11th, and 12th, up to 0.002 gm. A diffuse redness developed around ulcerative spots. Rapid

The following brief histories may be of interest. As the observations have been made with great care, they offer food for reflection:

Case I. (Table).—I. D——, aged thirty-six, admitted November 3, 1889. Has coughed for two years; hæmoptysis during the past two years four times; the last in April, 1889; was treated at Mt. Sinai Hospital. On entrance had involvement of the left apex with friction râles on right side, enlarged liver, and a weak heart. Had night-sweats, coughed a good deal, and expectorated mostly mucous sputa. Was treated the last year only by hydrotherapy (at first wash-off, then wet sheet, and then rain-bath 65° F., for thirty to forty seconds). On entrance, weight 162½ pounds. Condition before injections: Weight 178. Slight loss of resonance at left apex. Bacilli few; ten on cover glass. Breathing good, few fine friction râles over the left apex and over a small spot on the right side in the axillary line. Heart-sounds normal but weak. No cough and no expectoration. Was con

sidered as practically cured. Temperature always normal. November 16th, first injection of Koch's lymph. One milligramme produced a strong reaction. Temperature rose to 102°, went down to 98.3° F.

Injections having been carried up to 4 milligr., temperature rose to 103.8° F., and there was distinct local reaction, manifest by bronchia respiration and voice, which subsided in two days, with return of normal temperature. This case is a flagrant example of the elective affinity of the lymph for tuberculous tissue. Dr. Hodenpyl reports "a very few bacilli, two on the cover glass" (after three and a half weeks' treatment).

This patient has lost five pounds.

Case V.—B. F——, aged twenty eight; admitted July 7, 1890; pedlar, single. Last winter caught a cold, and since then coughs. In March cough became more troublesome, expectorated a great deal mucous sputa; night-sweats. He became very weak, gave his work up, and went to Mt. Sinai Hospital, where his sputa were a few times mixed with blood; never had hæmoptysis. He improved in Mt. Sinai, and was sent to the Home. On entrance complains of pain on both sides of chest; coughs mostly in daytime; expectorates very little; night-sweats; feels weak, and does not sleep well. Weight, 115 pounds. Was treated by rain bath, 65° F., creasote, and cod-liver oil. Physical signs on entrance: Tympanitic dulness in the upper third of the left lung, with bronchovesicular respiration and a few bubbling râles two inches below the clavicle. Right side, exaggerated vesicular respiration, with prolonged expiration, and a few friction râles. At present (one day before injections) no bacilli found in sputum, although they had been previously present; hardly any cough or expectoration, no night-sweats, feels much stronger; complains only of pain on both sides of the sternum. Physical signs without change. Although this case had been steadily improving, having gained twenty-one pounds, he has lost one pound and a half since the injections. In contrast to these two cases in the first stage, I submit three advanced cases which have improved in weight under the injections.

Case VI. (Table). — B. S——, aged eighteen, admitted November 12, 1890. Parents died of phthisis. Has been coughing one year and four months, since he had pneumonia. Pain in left chest; night sweats; dulness (tympanitic) over left apex; bubbling râles and bronchial breathing distinct for one inch below clavicle. Weight, 115 pounds. Treatment: Rain-bath, 65° F., for thirty seconds daily; creasote. December 16th, day before injection, weighs 123 pounds (increase of eight pounds in one month). Physical signs clearly point to existence of small cavity; cough and expectoration less; bacilli present; temperature normal during the past three weeks, although to-day (December 30th) there are physical signs of activity in the local process; his reaction has so far ceased that he received 5 milligr. Bacilli not changed; are rather longer than usual. He coughs and expectorates less, and has gained four pounds—the largest increase noted. The progress of this boy is remarkable.

Case XVIII. (Table).—E. W——, aged twenty-nine. Illness began three and one-half years ago with hæmoptysis and cough. She has albuminuria. Cracked-pot sound over small area at left apex, front; prolonged expiration and tubular breathing. Dulness over same area. Yellow-green sputa. Weight, 130 pounds, now 131½ pounds. Has been treated by sweat-box, rain baths, and creasote. Now has scarcely any cough or expectoration. Temperature normal in mouth. Examined before injection: Dulness over apex, right side, with mucous râles. Since injection she has had chills; vomited twice; cough more troublesome; physical signs more pronounced during reaction; crepitant râles heard now for the first time. Despite these symptoms she has gained two pounds, which she has lost during the past week.

Case II.—G——. Another case which has distinct evidence of a cavity, on account of which hydrotherapy had been discontinued, and which was injected only because of his anticipation of a successful result, and so cautiously that I began with ½ milligr. Has steadily improved in every symptom, while the physical signs denote activity in the local process. He has gained one pound and a half; is cheerful and improved in appearance. It is evident from my observations during the past two weeks that there are many unexpected results arising from the lymph, whose potency is thus most emphatically attested. Not a single case of phthisis has thus far resisted its reactive influence.

Case IX.—E——. A case of old fistulous tract, with great infiltration, resulting from an old mastoid abscess, that has been the bane and puzzle of many surgeons, was sent to us, as are most other cases, to spend his last days in peace. A gradual advance failed to produce reaction until 5¼ milligr. were reached, which produced a reaction that has subsided. He had been regarded by the house physician as too feeble to be again injected. When I examined him two weeks afterward, I found to my great surprise a complete removal of the dirty slough which had covered the tuberculous infiltration, and whose stench had resisted all deodorizing efforts. He was again injected. Dr. Dennis, in whose surgical service he had been for a long time, examined him last Saturday, and in the presence of a large class of students expressed his astonishment at finding this ulcer, which had resisted all treatment, almost completely cicatrized under the lymph treatment. As a diagnostic proof, this case is as unique as is Case I. (phthisis). The ultimate result will be a crucial test in both cases.

I offer these clinical facts for study and comparison. Without making positive general deductions, it may be stated that Professor Koch has offered three propositions:

1. That the lymph has an elective affinity for tuberculous tissue.

2. That it produces necrosis of this tissue accompanied by a process of exfoliation or extension of the dead from the living normal tissue.

3. That the removal of the necrosed tissue with its contained bacilli must be accomplished by surgery or by the efforts of the system, aided by the means hitherto in vogue.

I hold that the first two propositions have been fully and positively verified by my experiments, and that therefore the last may be regarded as presenting a favorable prognosis.

I am indebted to Drs. Hodenpyl and Ettinger for aid in sputa examinations. Since December 27th Drs. Morjé and Einhorn have had charge of Cases XIII. to XXI. of this table. All the cases I have experimented on were obtained from Dr. Morjé's service.

Hasty Medical Legislation.—A medical law has been passed by the new State of Washington, which in the short space of six months has already developed curiosities. A law was passed that all persons before practising medicine should be examined and licensed by a State board, appointed by the Governor. The Governor appointed on the board four regular practitioners, three homœopaths, a "physio-medic," and an eclectic. It is difficult to learn what a "physio-medic" is. The irregulars combined, elected their candidate president of the board, and placed such other members as they pleased in office. The board adopted rules to the effect that a general average of sixty-five must be made by all but old graduates (of at least five years' standing), who need not average as high in chemistry, physiology, or anatomy as graduates of less than five years' standing. Each member of the board was given subjects on which to prepare questions in writing. Some of these questions have gone the rounds of the medical press as jokes, as for instance one asked by the eclectic, "What is the effect of too much red blood-corpuscles in the blood?"—*Boston Medical and Surgical Journal.*

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, December 18, 1890.

ALFRED L. LOOMIS, M.D., PRESIDENT, IN THE CHAIR.

Certain Lesions of the Visual Tract from the Eyeball to the Cerebral Cortex.—This was the subject for discussion before the Academy, referred under the rules from the Section on Ophthalmology and Otology, of which Dr. H. D. Noyes was Chairman.

Papillitis.—DR. CHARLES S. BULL read the first paper, which treated of this phase of the general subject. The appearance of the fundus under the ophthalmoscope was described. There came under view the termination of an artery and the beginning of a vein; the ending of the optic nerve, which, owing to its proximity to the brain and certain other circumstances, underwent significant changes in various disease of the brain, cord, and some systemic diseases; further, the retina and a ring of the sclerotic were seen.

He thought the tendency had been to overestimate the significance of the blood-supply to the eye being common with that of the brain. The elasticity of the bed of the vessels as they passed through the sinus in the skull, and their anastomosis with the facial, prevented any close correspondence between intra-cranial and intra-ocular circulation. Mention was made of the influence on the circulation in the retinal vessels by aortic regurgitation, hypertrophy of the left ventricle, and other conditions of the heart, as well as of thrombosis, of severe muscular exercise, cough, epileptic fits, etc. In some of these conditions these retinal veins might become greatly congested. Extravasated blood was rarely seen except in rupture of the vessel. The causes of this were two, namely, increased vascular pressure, and decreased strength in the vascular wall. High arterial tension was often the only apparent cause of retinal hemorrhages. They might occur in senile vascular degeneration, in diabetes, malarial fever, pyæmia, purpura, etc. The central retinal artery was not infrequently the seat of embolism, and was sometimes the first symptom to be observed in disease of the heart. When the obstruction was complete and no collateral circulation was established, only a white line might be left to indicate the position of the vessel. The change in appearance might be sudden or gradual, and remain permanently or a shorter or longer time.

The author then gave his attention to the optic nerve, whose terminal fibres radiated out on the retina, being more numerous on the inside, above and below, than on the temporal side. Its color, observed through the ophthalmoscope, was usually paler than the rest of the disk, the boundary of the disk was the choroidal ring. A narrow rim of the sclerotic was seen within the choroidal ring. There were certain pathological changes occurring in the eye common both to the optic nerve and retina, yet optic neuritis might be independent of disease of the retina. He used the term papillitis that confusion might be avoided. It should be restricted to cases in which the swelling, redness, and opacity were sufficient to obscure the edge of the disk. A description of the appearances in conditions ranging from increased vascularity to marked inflammation of the papilla was given. Papillitis might disappear after having reached a stage in which the veins had been tortuous, dilated, the arteries narrower, or both arteries and veins concealed by œdematous swelling—occasional white patches concealed by a small hemorrhage; or it might go on to show numerous hemorrhages and further changes. Inflammation of the disk, or papillitis, might remain for weeks, months, or even years, in the lower degrees, unchanged, or the more intense changes might take place within a week. In the more severe forms the sight was always impaired, and might be entirely lost. Impairment of vision was commonly more marked in one eye than in the other, and might come on slowly or suddenly. In some cases defect in the field of vision due to intra-cranial disease might be accompanied by peripheral limitation of the field due to papillitis. There was defect in field perception for colors. Some authors were of the opinion that loss of vision following intra-cranial disease was more frequent in descending neuritis than in cases of isolated neuritis. This might be true, but it was exceedingly difficult to distinguish between papillitis due to descending neuritis and purely isolated papillitis. Loss of vision from isolated papillitis alone was never sudden.

Causes of Papillitis.—The most common cause was intra-cranial disease, particularly tumors. Besides tumors there was meningitis at the base, hydatid disease, softening from thrombosis or embolism. Papillitis sometimes occurred in acute diseases of the spinal cord; also in systemic diseases, such as Bright's, febrile disorders, anæmia, etc. It might be excited by great mental disturbance and prolonged exposure.

After reviewing the several explanations which had been given for the occurrence of optic neuritis in connection with intra-cranial disease, the author reached the following conclusions on this point: 1. In cerebral tumors evidence of descending inflammation could be traced in the sheath or in the nerve much more commonly than was generally supposed, while in meningitis the evidence of descending degeneration was almost invariable. 2. Papillitis, more or less intense, might be present while we remained ignorant of its cause. 3. When the cause was mechanical, the pressure did not always lie behind the ring, but might be within the papilla. 4. Slightly increased intra-cranial pressure did not affect the retinal vessels, but sudden pressure might intensify a papillitis originating in some other way. 5. Distention of the sheath alone was not sufficient to produce papillitis, but might intensify it when in existence. The diagnosis of the cause of the papillitis would depend largely upon the presence or absence of disease in other organs known sometimes to be accompanied by the ocular inflammation.

The value of papillitis as indicating cerebral tumor was very great; it might be the only diagnostic sign of organic central disease. Its subsidence might be regarded in most instances as indicating a retrogression of the growth. It was frequently present in hydatid cyst of the brain. In intra-cranial aneurism it was probably due to descending inflammation from the inflammatory process around the aneurism. In meningitis of the base, papillitis might occur from propagation along the nerve. It was rare in meningitis confined to the convexity. It sometimes occurred in syphilitic meningitis at the base, traumatic meningitis, disease of the cranial bones at the base, etc. When papillitis and glycosuria existed in the same patient, it should be remembered that both might be due to organic cerebral disease. The author then mentioned the other causes of papillitis not of a cerebral nature, and demonstrated the appearance of the disk on the screen.

Orbital Neuritis, including Alcoholic and Tobacco Amblyopia.—DR. HERMAN KNAPP continued the discussion with a paper on this subject. He said that the singular cases in which people noticed a haze, or a blur, or perfect darkness in the centre of vision, known under the name central amblyopia, as well as those cases in which persons lost their sight for one or two days without exhibiting symptoms of any ocular or general disease to account for it, were now known to be due to inflammation in the orbital part of the optic nerve, a retro-bulbar neuritis. It might be idiopathic, or due to alcoholism, to the use of tobacco, to syphilis, etc. It had an acute and a chronic form. The symptoms of the acute form were—headache in various degrees; orbital pain, increased by movements of the eye and pressure; impairment of sight in all degrees. It might begin without any warning, advance rapidly, leading, in exceptional cases, in a day or two, to total blindness of both eyes. Further symptoms were

central scotoma for color and form; general diminution of color perception; moderate redness and serious effusion of the optic disk and adjacent retina. This condition might be followed by ischæmia, or the latter might be noticed from the beginning. It was due to compression of the retinal vessels, the termination revealed one of three ophthalmoscopic pictures—one, the normal condition; two, partial atrophy of the optic nerves; three, total atrophy of the optic nerves.

Etiology.—Exposure; overwork; acute infectious diseases, for instance, measles, diphtheria; rheumatism; alcohol; nicotine; opium; lead poisoning, etc.; suppression of the menses; no assignable cause. The prognosis was doubtful. There might be complete recovery, or partial recovery, or complete loss of sight; sometimes there was one or several islets in the visual field.

The treatment consisted in rest, diaphoretics, salicylate of soda, mercury, iodide of potassium, all of which he thought were of very little avail. He cited a case in which there was no known cause for the total blindness present by the second day after the commencement of headache and difficulty with vision. Dr. Knapp examined his eyes on the second day, when there was no response to light; there was some congestive swelling of the disk. The man was now forty years of age, perfectly well, but blind, except in one islet through which he could count three fingers a distance of fifteen feet.

In speaking of alcoholic and tobacco amblyopia, he said there was diminution in sight in both eyes, coming on gradually, yet with acute aggravation; dim lines; patients saw better in the dusk; diminished perception for color and form, varying according to ring or central scotoma. According to the stage of the disease, one saw with the ophthalmoscope a fairly normal condition or slight congestion. It was almost exclusively in males. The prognosis was good in the first stage where no atrophy of the optic disk was present; it rarely ended in complete blindness. The atrophy in the optic nerve was usually triangular, and might remain after sight had again become normal. In treatment he insisted on total abstinence from alcohol and tobacco. Among remedies were strychnia, iodide of potash, Turkish baths, mountain or sea air.

The lesion was one of retro-bulbar neuritis in which there was a wasting of nerve-fibres, an augmentation of nuclei and hypertrophy of connective tissue. In other words, alcohol produced here an interstitial sclerosis just as it produced a sclerosis of the liver. The degenerated spot, which at first usually had the form of a triangle, might go on and become general, but usually some of the nerve-fibres escaped destruction, which accounted for islets in the visual field. Two years ago he had seen this triangular sector well marked in one eye of a healthy and absolutely sober girl, sixteen or seventeen years of age. On further investigation he found in the same eye a coloboma of the macula lutea. This was a congenital defect, and had been seen since.

In closing he said that retro-bulbar neuritis presented an example of peripheral neuritis of great importance, the nature of which had been correctly foretold by clinical analysis, and proven in a most gratifying manner by the pathologist. The subject of the paper was illustrated by lantern slides and the microscope.

Dr. H. D. Noyes opened the discussion, and said that orbital neuritus, especially that form known as alcohol or tobacco amblyopia, had been placed on positive ground by the investigations of Utoff. The speaker had the last three months chanced to see a number of cases of this sort, and with previous observations he had satisfied himself that the cause might be either alcohol or tobacco, and that it was not necessary for the two habits to be commingled. It was formerly supposed that alcohol, and not tobacco, could produce it; but he thought it had been demonstrated that tobacco alone was quite competent to bring it about. In tobacco poisoning he had satisfied himself that in addition to the impairment of the circulation and weakness of the heart there were also ocular symptoms, including impairment of the function of accommodation, impaired control of the ocular muscles, as well as the affection of the optic nerve. It was not at all rare in the earlier period of the tobacco trouble to have persons present themselves with very little impairment of vision so far as testing by loss was concerned, while deficiency made itself known in blindness for color in the macula lutea.

Appearance of the Optic Nerve not always a Reliable Sign.—Dr. Noyes could not place entire reliance on the appearance of the optic nerve in making a diagnosis. While he fully realized that in a considerable percentage of cases the temporo-inferior quadrant of the disk showed a change, nevertheless he had seen some cases in which it was not a recognizable symptom. Moreover, it was not rare to see this pale appearance in persons in whom there were no toxic effects whatever. Then, again, the lesion did not always present itself in the form of a circumscribed quadrant atrophy, but as a pronounced general atrophy of tissue.

Dr. Noyes referred to cases of injury to the head, in which, although there was no serious injury to the brain, yet blindness followed, resulting, he thought, from an optic neuritis which had its origin in a fissure in the orbital roof.

Dr. David Webster mentioned a case which he thought might be accounted for on the explanation last given by Dr. Noyes, namely, blindness following an injury to the head in which no cerebral trouble was present, and nothing in the appearance of the eye to account for the total blindness. The veins and arteries were normal, and the irides responded perfectly to light. He thought there was perhaps fracture of the roof of the orbit with a lesion of the optic nerve which had not yet become apparent.

Total Abstinence from Tobacco Necessary.—Dr. J. A. Andrews related the case of a man, forty-six years of age, who had tobacco amblyopia, which grew worse in spite of the fact that he reduced his daily quantity of tobacco markedly. Finally he was led to give up tobacco altogether, and in the course of six months the optic nerve cleared up entirely and his vision became normal. This same patient came to his office two years subsequently with the statement that on rising that morning he had queer feelings, but no pain in the head nor body; he simply felt strange, and his sight was not good when he looked in a certain direction. Nothing was visible in the eye to account for the defect in sight, yet there was lateral heteronymous hemianopsia. The supposition was that it was due to cerebral hemorrhage, and the man was advised to go to bed, but instead he went down town to business and next morning was found dead in his bed. No post-mortem. There had probably been cerebral hemorrhage.

Dr. Weeks thought retro-bulbar neuritis could be placed on a more general basis than had been done this evening. It was an interstitial neuritis, and might be caused, he thought, by any condition which would produce a neuritis in other nerves of the body. Alcohol was the most common recognizable cause, but diphtheria, gout, rheumatism, etc., might produce it.

Tobacco and Organic Lesions of the Heart.—The President thought that when tobacco-poisoning reached a point where it produced disturbance of the heart there was something more than functional disturbance; there was a change either in the connective tissue or of the muscular fibres of the heart. Such hearts did not bear ether nor cocaine. He impressed the fact that the heart condition was not functional; it was organic.

A Different Opinion.—Dr. A. Jacobi having elicited from the President the opinion that in such cases there was never, as far as his observation had gone, entire recovery from the heart trouble, said that he could not agree with him. He knew persons who had had functional disturbance of the heart from tobacco-poisoning recover entirely after the use of tobacco had been discon-

tinued. That was a hope which he thought we should hold out to our patients, unless it could be shown that the lesion causing the disturbance was of a nature which did not admit of entire recovery.

The President thought Dr. Jacobi had in mind cases of disturbance of the stomach from use of tobacco, which caused reflex irritability of the heart.

Dr. Jacobi remarked that the President seemed to know his mistakes better than he knew them himself. He did not believe that he had made a mistake, although he thought there was room for diversity of opinion. He would be very sorry to have patients get the idea that their condition was an organic change in the heart which could not be remedied.

Dr. Andrews mentioned a case in which the man was obliged, twenty-five years ago, to give up tobacco on account of disturbance of the heart, and he remained well to-day at seventy-six.

Is there a Tobacco Amblyopia?—Dr. E. V. Agramonte said the condition of the optic nerve shown on the lantern slides was a hyperplasia of the connective tissue. He would ask whether any practitioner present had seen a connective-tissue hyperplasia in any other organ of the body produced by tobacco. Besides, in Havana, where they used a great amount of tobacco, there were comparatively few cases of amblyopia, fewer than in New York. In the cases seen there, the cause had been recognized as alcohol, not as tobacco. It was known, too, that alcohol would produce sclerosis in other parts of the body, and naturally one would expect that it might produce it in the optic nerve. As to the heart, he knew of no case in which it had been demonstrated post-mortem that tobacco had produced hyperplasia of the connective tissue in this organ. He himself was not a smoker, yet for two years, while in the dissecting room, he smoked and suffered from so-called functional disease of the heart in a marked degree, and during that time had had occasion to undergo ether narcosis, and the doctors said he took the ether well. As soon as he quit tobacco he ceased to have heart symptoms. Then it was known that persons would admit the use of tobacco and deny the use of alcohol, which might lead one to suppose that the amblyopia was due to the use of the former, when in fact it was due to the secret use of the latter.

Dr. D. B. St. John Roosa took the view of Dr. Agramonte, which was that held by him some years ago. That is, he was an agnostic with regard to tobacco amblyopia. It had not been proven.

Dr. Knapp, in replying to Dr. Roosa, said it was not alone a question of the use of tobacco, but of the kind of tobacco, or the nature of the poison in the tobacco, which might not be the same in all kinds. As bearing on the heart affection, he said organic changes might exist, as seen in the optic nerve, yet function be restored.

The general subject will be discussed further at the first meeting of the Academy in February, at which Dr. Noyes will read a paper on hemianopsia.

The first Thursday in January will fall on New Year's Day, and after some discussion whether the meeting for the election of officers, which should fall on that day, could be postponed, it was finally decided that two or three could meet on the first, and adjourn business until the eighth, on which day the election will take place.

The Medical Examiners Bill.—Dr. A. Jacobi: I rise, Mr. President, to make a motion, with a few preliminary remarks. The New York Academy of Medicine is a power acknowledged by the profession, the public, and the authorities. It has attained this because its influence is not what is generally called political. What has given it its high position is indeed nothing but the fact that it never forsook the object for which it was founded, namely, the cultivation of medical science and art, and the elevation of the standard of medical education, and of the profession.

After nearly twenty year's efforts, and the outlay of considerable sums of money, the profession finally succeeded, nearly two years ago, in securing a bill providing for a State Examiners Board. Unfortunately, as is well known, three boards have been established instead of one. But the principle has been established that the community is entitled to ascertain by a State examination whether a graduate of a college shall be permitted to practise, and that the ranks of the profession shall be swollen only by those who are amply fit. The second bill which has been secured by the efforts of the profession refers to a preliminary education No person, in future, is permitted to obtain a medical diploma, unless he or she can bring proof of having attained to a certain degree of intellectual culture.

As there is danger of repetition of attempts to repeal these beneficent laws, such attempts having been made last winter, or to so change them that they may be still less effective, I move as follows:

The New York Academy of Medicine considers the law establishing a State Board of Medical Examiners, and the law exacting a preliminary education from those who intend to obtain a medical diploma, as stages of progressive development. It deplores the insufficiency of these laws, but rejoices at the recognition by the Legislature of the principles on which they are based. It feels that, as they are, they deserve being tested, and ought not to be changed, amended, or repealed before their efficacy or inefficacy will have been proven by the experience of years.

Dr. D. B. St. John Roosa seconded the motion, with some earnest remarks, and said he feared the profession would get something worse than the present bill, should a change be made before at least a year's trial.

The motion was carried, and the secretary was instructed to send a copy to the State authorities.

Correspondence.

A VITAL QUESTION FOR THE WORKING PHYSICIAN.

To the Editor of the Medical Record.

Sir: That charity is wholesome to the soul no physician, having himself so often enjoyed the remembrance of a kindly act, will deny. As with liberty, so with charity; when not well bestowed it becomes a curse not only to the recipient, but also to the donor; sweet charity is a balm to the worthy, to the unworthy it is an incentive to degradation. To-day, in this city, charity, as represented by our free dispensaries, is working a vast amount of harm—demoralizing men and women, making of them thieves, for they who can afford to pay a physician and who receive free treatment at dispensaries virtually rob the poor, while they deliberately lie so as to obtain such care. The physician, as every other citizen, is interested in the welfare of society, and by his calling is bound to elevate the *morale* of the community. Do we do so? No, we daily allure to our hospitals, dispensaries, and college clinics patients who can well afford to pay for home treatment at the hands of physicians who have given the best years of life to study, and who should be allowed to make an honest living in an honorable profession.

It seems that the medical profession has lost its ancient reputation for honor, the only cry now is "Catch a patient if you can," no matter what other brother practitioner may have been faithfully and skilfully treating him; steal every case that may come under your attention; stab your confrère, it may not be by harsh words, but by a more infernal plan, honeyed praises, with a saving clause injected, viz.: I can do better. On all sides such a state of affairs exists, and without seeming pessimistic we must admit it as we every day see it. The honest hod-carrier will not take a job out of the hands of his fellow-worker—else he becomes a scab—nay, he goes further, he will strike to protect his kind. What a lesson given by the humble laborer to the learned professional gentleman!

We find more honor among the toilers than among physicians.

This system has its origin and extension in our free medical charities of the present day; it is not due to a healthy and laudable competition, and some means must be found to arrest the growing evil. In one institution, known to the writer, between five and six hundred patients, daily, receive treatment, and not one-half the number deserving. Frequently the young "Dispensary Doctor" slips his card to the patient, with the suggestion, "You had better call at my office," and then begins a time when the tempered wind to the shorn lamb becomes a cyclone, which sweeps the dollars out of the innocent lamb's wool. At the same time a neighboring physician, well read, conscientious in his profession, armed with hard-earned skill, and holding a diploma granted, perhaps, by the Institution which takes the bread from his family, sits in his office and literally starves to death.

A great responsibility lies with the medical colleges which take the money of the graduate and then raise up institutions to nullify the value of their certificate to practise. It is time that the Faculties of the different colleges come together and devise some plan to stamp out this wholesale system of robbery and deceit. Here, naturally, comes the question, How can it be done? How can we separate the worthy from the unworthy? Granted that the problem is a difficult one to solve. However, I will humbly submit a plan which, if honestly carried out, will, I believe, help carry us over the bridge. My suggestion is: That each hospital and dispensary, print cards stating specialties, if any, hours of service, names of attending physicians, etc., and such cards to be distributed to the members of the profession in the city, requesting that the physician vouch for the applicant for free treatment as being worthy, which voucher will certainly not be withheld by any reputable physician if the case be a deserving one. This may, for a time, bother the physicians and cause them some trouble; but the benefit of weeding out the drones will eventually bring dollars into the treasury, for while the deserving poor will not suffer, the frauds will have to take a back seat or pay what is just and right. Such a plan, if adopted, would undoubtedly help to replace the medical profession on the old standing, and bring to it a respect now lacking. Another point that might be canvassed: Is it right for a rich corporation to give treatment for a monthly nominal sum? The writer has a patient who paid $1 monthly for treatment in an institution rich in money and lands, while he is fully able to pay $2 a visit.

Private dispensaries also require the attention of medical societies—such institutions are under no restriction and amenable to no law. A dose of legislation would be in order, either purgative or alterative.

M. A. C.

[The only trouble is that it takes two to make a bargain, and college clinics and dispensaries are in need of all the clinical material they can obtain by fair means or otherwise.—Ed.].

A COMPLAINT AGAINST THE UNDERTAKER.

To The Editor of the Medical Record.

Sir: I desire to make a complaint. It is this. After attending patients through their last illness I am called upon to sign a certificate of death. This is sent to the Board of Health. Many times I also make out and sign an insurance certificate. I am told by some that my bill will be paid when the insurance policy is honored by the company. I believe it has been said that "hell is paved with good intentions." Well, to come to the point, that is the last I ever hear of my bill, and it is not paid. I have been "worked" so often by this scheme that I made up my mind to try another mode of action. I refuse to sign the insurance certificate, hoping to be paid. The generous gentleman to whom the burying process is entrusted obligingly helps my debtor out of the small trap set for him by me, and he, the undertaker, obtains a transcript from the Board of Health, which, I am informed, is accepted as a proof of death by the companies, and I am "left" again. The undertaker gets his fee because he goes to the office of the company with the person to whom the money is left by the deceased, and, as a rule, cashes the insurance company's check, helping himself and giving in exchange the change. Considering what a good friend to the undertaker the doctor is said to be, I think that it is very ungrateful conduct on the part of that dignitary.

Is there no relief for doctors?

Is it fair that a transcript be issued when the doctor's bill most certainly would be paid (cheerfully) if that transcript were not given? I think the editor knows how hard it is for a young doctor to make both ends meet, and that when he can obtain pay for his services that it is mean to do him out of it.

I am most sincere in appealing to you in this matter, and I feel certain you will give it your kind consideration.

Yours sincerely,

Philip F. O'Hanlon, M.D.

[Moral: Keep all the possible business out of the undertaker's hands.—Ed.]

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from January 4, 1891, to January 10, 1891.

Sutherland, Charles, Colonel and Surgeon, to be Surgeon-General, with the rank of Brigadier-General, December 23, 1890. Vice Baxter, deceased. By direction of the Secretary of War, he will, as soon as practicable, repair to Washington, and assume the duties of his office. Par. 9, S. O. 2, A. G. O., Washington, D. C., January 3, 1891.

Official List of Changes in the Medical Corps of the United States Navy for the week ending January 10, 1891.

Ruth, M. L., Surgeon. Ordered to the Newark, February 2, 1891.

Rush, W. H., Passed Assistant Surgeon. Detached from the Saratoga, and ordered to the Newark, February 2, 1891.

Asheridge, Richard, Passed Assistant Surgeon. Ordered to the Saratoga.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending January 10, 1891.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	8	3
Scarlet fever	153	16
Cerebro spinal meningitis	3	5
Measles	398	15
Diphtheria	101	14
Small-pox	0	0
Varicella	9	0
Pertussis	4	8
Croup	1	0

Patents for Dental Work.—At a meeting of the Central Dental Association, held last fall in Newark, Dr. W. F. Rehfuss, of Philadelphia, read a paper entitled, "The

Jurisprudence of Dental Patents, and the Legal Interpretation of Claims of Patents granted for Artificial Crowns and Bridge Work." The author said the great number of patents threatened the welfare of dentistry as a liberal profession, and would endanger its progress. The subject of patent methods, he said, was peculiar to dentistry of all the healing arts, and dentistry was of necessity forced to harbor and submit to such degrading systems. More than two hundred patents had been granted, he said, for modes of operating, and the whole number would exceed one thousand if patents for instruments were included. The author contended that dental operations should not be patented, but that instruments to perform the operations were legitimately patentable.

Reunion of Severed Parts.—The two following cases are interesting as showing how much can be accomplished by skilful conservatism in surgery. The first case is one reported by Mr. George Gordon in the *British Medical Journal*. The patient was a healthy, well nourished girl of six, who had had the fleshy portion of the middle finger stripped completely off the two distal phalanges. While playing with some other children in a wood-yard a plank of timber had fallen on her hand: she immediately withdrew the hand, with the above-mentioned result. The intention was to amputate the finger, but the mother produced the missing member, which had been found wedged in between the planks, and this led the writer to resolve to give the limb a chance, so he carefully washed the finger, which had by this time been laid aside for fully an hour. It was burst open along its palmar aspect to within a short distance of the tip, so the operator slipped it over the denuded bone, as one would do the finger of a glove. The lacerated edges were brought together by eight silk sutures, and a carbolic dressing was applied, the whole hand being warmly dressed to maintain the temperature. It was seen again twenty-four hours afterward, but the process of repair did not seem encouraging. Two days afterward it was seen again, but now vascular granulations from the lacerated stump seemed to shoot into the apparently dead finger, and on subsequent visits an increased temperature with decided vitality manifested itself. Some time afterward the patient again injured the tip of the same finger, and it had to be removed, but the remaining portion did well, becoming firmly united to the bone. The second case is one reported in August last by Dr. J. M. Kelley in the *Times and Register*. He writes as follows: "On July 1st I was called to the Kincaid Cotton Mills, Griffin, Ga., and upon my arrival I found a young man bleeding from the nasal locality. After examination, I discovered that all the soft part of his nose was gone, except about one-third of the left wing and a thin anterior flap of the nasal septum, which was lying down upon the upper lip, still attached at its lower end. I was informed that it was cut off by a belt which had slipped off of its pulley while the machinery was in motion. I ordered the missing member brought to me; after a short search it was found. I washed it and warmed it thoroughly in warm water lightly impregnated with bichloride of mercury, placed it in its proper position, raised the anterior flap, and stitched all around with surgeon's silk. I then introduced into each nostril two large drainage-tubes, compressed and confined the parts firmly with several strips of isinglass plaster. Over the entire nose I placed a piece of oiled silk. During the first twelve hours I kept up continual warmth by laying across the nose a flannel doubled three or four times, saturated with a warm solution of bichloride of mercury. I also injected frequently this warm solution into the nostrils. On the second day nothing was done except to keep a dry flannel across the nose. On the third day I removed the drainage-tubes, washed out each nostril with warm bichloride solution, dried the parts, and placed the tubes back as before. I repeated this almost daily until the tenth day, when I removed all of the dressing and found the nose alive and united except a small triangular notch in the right wing which was so badly bruised as to cause it to die. The time the nose remained off was about one hour."

A Simple Pneumatic Method of Removing Foreign Substances from the Nasal Cavity of Children.—Dr. T. J. Slaton, of Greenville, Ky., describes this method as follows: "The operator places a thin cloth over the child's mouth, applies his finger to the nostril not containing the substance, pressing sufficiently to close the lumen, and then puts his mouth to the child's and gives two or three strong puffs. The substance will fly out nine times out of ten. I have blown them ten feet out, often. I have used this method for the last ten years with but one failure; in that case I failed but forced the substance so near the anterior nasal opening that I had no trouble in removing it with forceps."

How to Give Chloralamid.—Much depends upon the proper administration of the new hypnotic, choralamid, to obtain the full effect and satisfactory and beneficial results. The dose is from 15 to 60 grains, with an average dose of 30 grains. Chloralamid is soluble in about 20 parts of cold water, and in 1½ part of alcohol. An additional caution is necessary: Never dissolve or dispense chloralamid in hot water or warm solutions, as the heated preparation decomposes. The best modes of administration are: 1. In a tablespoonful of whiskey or brandy. 2. In properly proportioned solutions with wine, spirits, or spirituous compounds. 3. In a small cup of cold water or cold tea. 4. In powder form, in wafers or cachets washed down with cold water.

The Ideal Malthusian Marriage.—It is stated by Dr. Keppler, of Venice, that spaying for salpingitis and other inflammatory affections in young women does not produce any diminution of the sexual appetite, but that, notwithstanding certain changes in the genital organs that remain, these women can marry and live happily with their husbands. Indeed, he suggests that marriage with a spayed woman is the ideal of a Malthusian marriage, as a happy married life without conception and without any danger to health can be obtained. Very different is the result of spaying in middle-aged women with fibromata, for it entirely destroys all traces of sexual instincts.—*The Hospital Gazette.*

Excision of the Hip.—To obtain primary union in six out of seven cases of excision of the hip for tubercular hip joint disease may fairly be regarded as a very good record. This record was presented to the Medical and Chirurgical Society at a recent meeting by Mr. Arthur Barker. In all the cases operated on, advanced disease was present together with abscess, prolonged rest having failed to prevent the development of the latter. By means of hot water flushing combined with gouging (in the manner devised by Mr. Barker) the tuberculous material was evacuated so thoroughly that it became safe to close the wound and look for primary union "a sound cicatricial tissue taking the place of the diseased area, and all open sinuses being prevented." The only case out of the seven which did not do well was one in which the conditions under which Mr. Barker recommended this procedure had been violated. It served, therefore, to illustrate the limits which might be set to the method. It was that of an exceedingly debilitated and neglected boy, aged seven, in whom the right hip-joint was palpably destroyed by advanced disease and converted into a large thin-walled abscess, the skin over which was thin and red and evidently about to give way. The contents were mostly inflammatory pus, the part having been aspirated some time previously—probably with a non-sterilized needle, the track of which was observed to suppurate later on. This joint was treated by the method in question, though without much hope that it could be got to heal by first intention. It did not do so, and hot

fomentations and drainage had to be resorted to. The boy, however, steadily improved and ultimately left University College Hospital greatly increased in weight, and with only a very small sinus remaining in the joint. After narrating the remaining cases Mr. Barker said he did not advocate his method of procedure as one to supersede local and general treatment, but rather as a means of treating tuberculous hips where other means had failed and abscesses were forming and ready to burst.

Eighty-fifth Annual Meeting of the Medical Society of the State of New York, Tuesday, Wednesday and Thursday, February 3d, 4th, and 5th, in the City Hall, Albany. *Provisional Programme:* Tuesday, Morning Session, 9.30 A.M.: President's Inaugural Address, Appointment of Committees, Executive Business. Papers: "Railroad Surgery," by Clinton B. Herrick, M.D., of Troy; "A Report of Cases of Injury to the Knee-Joint, with Remarks," by Henry Flood, M.D., of Elmira; "The Management of Sinuses in Chronic Bone and Joint Diseases," by V. P. Gibney, M.D., of New York; "Necrosis of the Ribs, Complicating Pott's Disease," by Louis A. Weigel, M.D., of Rochester; "Brief Notes on Gastrostomy, with Report of a Successful Case," by Charles A. Powers, M.D., of New York; "The Action of Trypsin, Pancreatin, and Pepsin upon Sloughs, Coagula, and Muco-pus," by Robert T. Morris, M.D., of New York; "Operative Procedures in Acute General Suppurative Peritonitis," by W. E. B. Davis, M.D., of Birmingham, Ala.; "The Progress of Cystoscopy in the Last Three Years," by Willy Meyer, M.D., of New York; "A Plea for Rapid Dilatation, Holt's Operation, in the Treatment of Urethral Stricture," by F. R. Sturgis, M.D., of New York; "A Case of Imperforate Anus of Eight Weeks' Standing. Operation and Recovery," by William Hailes, Jr., M.D., of Albany. Afternoon Session, 2.30 P.M.: "Diagnostic Significance of the State of the Pupils," by E. C. Spitzka, M.D., of New York; "Three Diagnostic Symptoms of Melancholia. Second Communication," by Landon Carter Gray, M.D., of New York; "Hysterical Manifestations Due to Alcoholism," by H. C. Coe, M.D., of New York; "Cases of Traumatic Hysteria," by Henry Hun, M.D., of Albany; "Insomnia and its Treatment," by E. N. Brush, M.D., of Philadelphia; "The Cause of Asthenopia," by D. B. St. John Roosa, M.D., of New York; "The Treatment of Detachment of the Retina," by David Webster, M.D., of New York; "On the Use of Platinum Instruments in the Extraction of Cataract and in Other Operations upon the Eye," by E. Gruening, M.D., of New York; "Contagion from Roller Towels," by Lucien Howe, M.D., of Buffalo; "One Thousand Cases of Ocular Headache and the Different States of Refraction Connected Therewith," by W. F. Mittendorf, M.D., of New York; "Catarrh and its Cure," by O. B. Douglas, M.D., of New York; "On the Causes of Eczema," by L. Duncan Bulkley, of New York; "Some Points in the Pathogenesis of Aural Vertigo," by Oren D. Pomeroy, M.D., of New York; "Certain Hygienic Measures in the Treatment of Catarrhal Affections of the Upper Air Passages," by F. H. Bosworth, M.D., of New York; "A Contribution to the Surgical Treatment of Jacksonian Epilepsy. Excision of the Arm Centre," by Edward B. Angell, M.D., of Rochester. Evening Session, 7.30 P.M.: Discussion on "Appendicitis." "The Pathology of Appendicitis," by Herman Mynter, M.D., of Buffalo, and Arpad G. Gerster, M.D., of New York; "The Indications for Early Laparotomy in Appendicitis," by Charles McBurney, M.D., of New York, and William W. Keen, M.D., of Philadelphia; "The Technique of Operative Interference in Appendicitis," by Lewis A. Stimson, M.D., of New York, and George Ryerson Fowler, M.D., of Brooklyn; "The Propriety of and the Indications for the Resection of the Appendix Vermiformis During the Quiescent Stage of Chronic Relapsing Appendicitis," by Joseph Price, M.D., of Philadelphia, and Robert F. Weir, M.D., of New York; "The Relation of the Physician and the Surgeon in the Care of Cases of Appendicitis," by Albert Vander Veer, M.D., of Albany.

Wednesday, Morning Session, 9.30 A.M.: Discussion "On Pelvic Inflammation in Women; its Pathology and its Palliative, Conservative, and Radical Treatment." "Introduction," by Andrew F. Currier, M.D., of New York; "Pathology," by A. J. C. Skene, M.D., of Brooklyn, and W. Gill Wylie, M.D., of New York; "Palliative Treatment," by C. C. Lee, M.D., of New York; "Conservative Treatment," by W. M. Polk, M.D., of New York; "Radical Treatment,' by Joseph Price, M.D., of Philadelphia, and L. S. McMurtry, M.D., of Louisville, Ky. These papers will be discussed by Dr. Thomas Addis Emmet, of New York, Dr. Franklin Townsend, of Albany, and others. Papers: "The Treatment of Posterior Displacements by the Utero-Vaginal Ligature," by H. J. Boldt, M.D., of New York; "Minor Gynecological Surgery," by Maurice J. Lewi, M.D., of Albany; "The Treatment of Injuries to the Floor of the Vagina," by Horace Tracy Hanks, M.D., of New York; "An Inquiry into our Present Knowledge of the Progress of Myomatous Tumors after (*a*) The Use of the Electric Current; (*b*) Removal of Ovaries and Tubes; (*c*) The Old Method of Treatment by Rest, Intrauterine Applications and Ergot," by James F. W. Ross, M.D., of Toronto; "My Experience with the Surgical Treatment of Retroflexion, and Prolapsus Uteri," by Paul F. Mundé M.D., of New York; "Surgical Treatment of Ectopic Gestation," by Charles A. L. Reed, M.D., of Cincinnati, O.; "Some of the Results of Defective Sanitary Arrangements in the Puerperal State," by James P. Boyd, M.D., of Albany; "The Management of Tedious Labor," by Egbert H. Grandin, M.D., of New York; "A Report of Four Cases of Cancer of the Clitoris where Clitoridectomy was Performed," by Franklin Townsend, Jr., M.D., of Albany; "The Emotional Element, the Puerperal Period," by Adam H. Wright, M.D., of Toronto. Afternoon Session, 2.30 P.M.: Discussion on "Pulmonary Tuberculosis:" "History," by H. R. Hopkins, M.D., of Buffalo; "Etiology and Pathology," by Heneage Gibbes, M.D., of Ann Arbor, Mich.; "Diagnosis and Prognosis," by A. L. Loomis, M.D., of New York; "Manifestation in Upper Air Tract and Special Treatment Thereof," by John O. Roe, M.D., of Rochester; "Treatment, including Prophylaxis, as related to Climate," by Samuel B. Ward, M.D., of Albany; "Treatment as related to Therapeutics, including Koch's Method," by E. L. Shurley, M.D., of Detroit. Papers: "Koch's Lymph and Tuberculosis," by A. Jacobi, M.D., of New York; "Therapeutic Notes on Acute Respiratory Diseases," by A. Jacobi, M.D., New York; "Lobar Pneumonia, with the Production of Connective Tissue in the Air Spaces," by Francis Delafield, M.D., of New York; "The Treatment of Gall Stones," by William Watkyns Seymour, M.D., of Troy; "Treatment of Itching," by Edward B. Bronson, M.D., of New York; "Croupous Rhinitis," by Frank H. Potter, M.D., of Buffalo; "The Correction of Angular Deformities of the Nose, by a Subcutaneous Operation," by John O. Roe, M.D., of Rochester; "A Case of Pemphigus," by H. R. Hopkins, M.D., of Buffalo; "The Treatment of Pigmentary and Vascular Nævi," by George Henry Fox, M.D., of New York. Anniversary Address, by the President, at 8 P.M., in the Assembly Chamber; Annual dinner of the society, at 9.30 P.M., at the Delavan House.

Thursday, Morning Session, 9.30 A.M.: Executive business. Papers: "The Relation of Physicians to Boards of Health," by Lewis Balch, M.D., of Albany; "The Necessity of an Amendment in the Laws Governing Medical Evidence in Malpractice Suits," by R. J. Wilding, M.D, of Malone; "The Present Status of the Proposed Law to Regulate the Practice of Embalming Human Dead Bodies," by A. Walter Suiter, M.D., of Herkimer; "The Unrestricted Evil of Prostitution," by Andrew F. Currier, M.D., of New York; "A Case of

Scarlet Fever with Vesicular Eruption," by F. C. Curtis, M.D., of Albany; "Intestinal Obstruction, Report of Cases," by J. H. Glass, M.D., of Utica; Subject to be announced, by William S. Ely, M.D., of Rochester; Subject to be announced, by Clarence C. Rice, M.D., of New York.

The Zymotic Diseases in New York: Their Prevalence, Mortality, and Sanitary Management.—The Tenth Annual Report of the State Board of Health of New York, for the years 1888 and 1889, has recently been issued. It contains an immense amount of interesting and valuable matter. The mortality statistics and the very excellent deductions drawn from them by Dr. F. C. Curtis deserve wide reading by physicians. Following is an abstract of his remarks on the zymotic diseases:

Typhus Fever.—Seven deaths in 1888, all in New York and Brooklyn. None in 1889, for the first year in the history of the Board. During the past five years 80 deaths have been reported.

Cerebro-spinal Fever.—Four hundred and ninety deaths in 1888, and 596 in 1889. Geographically it is pretty generally distributed throughout the State, but notably adheres to certain localities such as New York, Buffalo, Troy, and Gouverneur. It is a remarkable fact that New York reports deaths from this disease every month in the year, while none is reported from Brooklyn. In fact, during the seven years that records have been kept, there has been only one death from cerebro-spinal fever in Brooklyn—in May, 1885. As to seasonal distribution, the statistics show that its greatest prevalence is in the spring months, and its least in the summer. No other zymotic disease, however, is so constantly present. The high level of surface- or ground-water is put forth as a possible etiological factor; this is noticeable in St. Lawrence County and along the St. Lawrence River) and it is recommended to try the effect of draining the soil in the especially affected regions.

Malarial Diseases.—There were 842 deaths reported in 1888, or 0.8 per cent. of the zymotic mortality; 742 deaths in 1889, or 0.75 per cent. of the zymotic mortality. The largest proportion of these deaths occur in the fall months and the least in summer.

Typhoid Fever.—There were 1,449 deaths in 1888, or 1.4 per cent. of the total mortality, and 1,571, or 1.5 per cent. in 1889. This is about the usual average. The deaths began to increase in August, continuing to do so in September and October, and then diminishing till January, the first seven months of the year being comparatively free from the disease. There were no noteworthy epidemics of the disease in either 1888 or 1889.

Small-pox.—Until December, 1887, small-pox was comparatively unknown in New York State for years, at least outside of the maritime centres, where, from its exposure from outside, cases may at any time appear. In 1885, in spite of an extensive epidemic in Montreal, there were only 33 deaths in New York State, 28 of which were in New York City. In 1886 there were 39 deaths, all but 2 being in the metropolis. In 1887 there were 175 deaths, 171 of which occurred in New York, Brooklyn, and their immediate vicinity. In December of 1887, however, an epidemic began that extended to various parts of the State and lasted till April, 1889, affecting about fifty localities. There were 12 deaths in December, 1887, and 210 in 1888, the greatest number being in March, April, and May—35, 40, and 42, respectively. In 1889 there were 30 deaths reported, all but 3 being before May. The starting-point was usually traced to the metropolitan centre. It broke out in the Indian reservations in the western part of the State, and threatened to be general; but vaccination and rigid quarantine limited the outbreak to 6 cases, with 4 deaths. The energy of the boards of health in speedily accomplishing the control of this disease is to be commended Another outbreak is not probable in the near future.

Measles.—This disease was less prevalent in 1888 and 1889 than usual, causing about 9.50 per 1,000 of the total mortality. It varies greatly in prevalence and occurs usually in epidemics; although small-pox was unusually prevalent in 1888 it did not cause one-fourth as many deaths as measles.

Whooping-cough.—This is even more variable in prevalence than measles. There were 834 deaths reported in 1885, 1,244 in 1886, 447 in 1887, 902 in 1888, and 1,332 in 1889.

Scarlet Fever.—The report is given in full concerning this disease: "Here we have a disease of much more importance than either of those spoken of. In each 1,000 deaths there were, in 1885, 14.5 from scarlet fever; in 1886 there were 11.7; in 1887 there were 13.2; in 1888 there were 22.8; and in 1889 21.2 deaths per 1,000 total mortality. It is much more prevalent and fatal as a rule in the winter and spring months, both relatively and absolutely. The necessity for quarantine and disinfection ought to be emphasized in scarlatina. If this were done in every case the spread of the disease would be greatly lessened. The same care should be used in regard to it as with small pox, which it resembles more than any other zymotic disease in regard to the vitality and portability of its virus. It is certain to cause a great many more deaths than small-pox ever will, lacking as it does the protective procedure of vaccination, and it is only to be controlled by restriction of the sick and destruction of the virus."

Diphtheria.—This causes the most deaths of all zymotic diseases. In 1885–86–87 it caused 32.35 per cent. of the zymotic mortality; in 1887, 32.20 per cent.; in 1888, 29.30, and in 1889, 27.3. It is a winter disease. It is found in all cities as well as the most retired and rural localities. It seems to have become endemic in the cities. Once established the morbific principle is liable to inhere. Few doubt that it is contagious, but it depends more on its environments than small pox, measles, etc., which appear to thrive in sanitary as well as unsanitary localities. There is a susceptibility of locality as well as a personal susceptibility in diphtheria. There is a manifest bearing in the saturation of the soil or high level of ground-water. Village sites with damp, wet cellars, especially those imperfectly ventilated and having mould on the walls, are apt to have diphtheria. The *rationale* perhaps is that those living over such cellars are prone to sore-throat and to develop personal susceptibility, but there is also the upward draught carrying moisture and decomposing matter. There is a relation between filth and dampness and diphtheria. The disease does not linger in clean, well-ventilated, dry, airy places. It is contracted in two ways, by direct personal contact or by inhaling air emanating from a spot which furnishes conditions favorable to the development and culture of its disease-germs, which at some previous time have become planted there. Bad sanitary conditions make the culture-beds and explain repeated outbreaks of the disease in the same house. In many instances it is possible to rectify the conditions on which the perpetuation of the germ depends by soil drainages, avoidance of its pollution, cleanliness, and ventilation. That the disease can originate under these unsanitary conditions, without the importation of the germ, is not probable. The germs are remarkably long lived, cling tenaciously to articles on which they are deposited, and can thus travel long distances. The sanitary inspector meets the disease in two conditions—an outbreak due to direct personal exposure to the disease or germ, imported into a locality previously free from it; secondly, he finds it prevailing in a village, where there is a recurrence of the cases, one or more at a time, at intervals of some weeks perhaps, but constantly recurring for an indefinite period. Stop the further spread of the disease by quarantine. Cut off all unnecessary communication between the sick and well, and destroy all generated infectious material. In the second condition, however, more is necessary. The unsanitary foci where the germs are propagating must be found and destroyed.

Reviews and Notices of Books.

The Science and Art of Obstetrics. By Theophilus Parvin, M.D., LL.D., Professor of Obstetrics and Diseases of Women and Children, Jefferson Medical College, Philadelphia. Second Edition. 8vo, pp. 704. Philadelphia: Lea Brothers & Co. 1890.

The second edition of this work is fully up to the present state of advancement of the obstetric art. The author has succeeded exceedingly well in incorporating new matter without apparently increasing the size of his work, or interfering with the smoothness and grace of its literary construction. He is very felicitous in his descriptions of conditions, and proves himself in this respect a scholar and a master. Rarely, in the range of obstetric literature, can be found a work which is so comprehensive and yet compact and practical. In such respect it is essentially a text-book of the first merit. The arrangements of the subjects are stereotyped, but their treatment gives the real value to the work—the individualities of a practical teacher, a skilful obstetrician, a close thinker, and a ripe scholar.

Index Catalogue of the Library of the Surgeon-General's Office, U. S. A. Authors and Subjects. Vol. XI. (Phædronus—Régent.) 4to, pp. 1102. Washington. 1890.

The eleventh volume of the Catalogue of the Library of the Surgeon-General's Office is equal in size and importance to that of its predecessors. It includes 9,539 authors' titles, representing 4,535 volumes and 8,908 pamphlets. It also includes 14,262 subject-titles of separate books and pamphlets, and 38,080 titles of articles in periodicals. Dr. John S. Billings is still very properly the supervising genius of the series.

Medical Diagnosis, with Special Reference to Practical Medicine: A Guide to the Knowledge and Discrimination of Diseases. By J. M. Da Costa, M.D., LL.D., Professor of Practice of Medicine and of Clinical Medicine, Jefferson Medical College, Philadelphia. Seventh edition. 8vo, pp. 995. Philadelphia: J. B. Lippincott Company. 1890.

The seventh edition of this classic work has been thoroughly revised and much new matter has been incorporated, together with numerous woodcuts illustrating "such micro-organisms as have been proved to be of practical significance in diagnosis." For over a quarter of a century this treatise has maintained its leading position in clinical medicine, and is likely to continue its reputation for some time to come. In its particular line it is without a rival.

A System of Oral Surgery: being a Treatise on the Diseases and Surgery of the Mouth, Jaws, Face, Teeth, and Associate Parts. By James E. Garretson, A.M., M.D., D.D.S., President Medico-Chirurgical Hospital, etc., Philadelphia. Fifth Edition. 8vo, pp. 1364. Philadelphia: J. B. Lippincott Company. 1890.

The fifth edition of Professor Garretson's admirable work is enlarged and improved in many ways as compared with former ones. In almost every chapter new matter has been added in order to keep pace with the improvements in oral surgery, so rapid and radical during the past few years. The work for a considerable period has occupied a field of its own, and has vindicated its claim to recognition by the prompt calls for successive editions. At present it is almost encyclopedic as referring to the diseases of the oral cavity. We have here everything, from plugging a dental cavity to extirpation of the jaw. Even the surgery of the neck and nose are placed under contribution. Although this is somewhat beyond the specialty, the surgical as well as the dental reader will pardon the author in view of the admirably exhaustive and practical manner he has treated every subject in the work. Although intended more for dentists than general surgeons, the latter will find much in it that is new and interesting, especially such as refers to the author's personal experience. The application of the surgical engine to operations upon the jaws for removal of tumors, is a new departure long and creditably associated with the author's name, and the profession at large cannot be too grateful for his adaptation to some of the most difficult surgical procedures. It is most profusely illustrated.

A Text-book of Practical Therapeutics, with Especial Reference to the Application of Remedial Measures to Disease, and their Employment upon a Rational Basis. By Hobart Amory Hare, M.D. (Univ. Pa.), B.Sc., Clinical Professor of Diseases of Children, and Demonstrator of Therapeutics in University of Pennsylvania, etc. 8vo, pp. 632. Philadelphia: Lea Brothers & Co. 1890.

"The object of this book," says the author, "is to provide the physician or undergraduate student of medicine with a reliable guide in the study of therapeutics, or the application of remedial measures for the cure of disease." In fulfilling this object the author has endeavored, very successfully we believe, to so arrange the departments of his subject as to give them a thoroughly practical and scientific bearing. His aim has been to demonstrate when and how the different remedies may be applied to the commoner diseases in their different stages. Part I., on general therapeutical considerations, is brief and to the point regarding the action of drugs, dosage, modes of administration, absorption, indications, counter-indications, etc., making a fitting general introduction to the divisions which follow. Part II. discusses the various drugs in alphabetical order, under the subdivision of physical properties, physiological action, their effects upon the different systems, their uses in different diseases, dosages, and poisonous effects. All the newer remedies are included in this list, and the author makes a very laudable endeavor to substitute other than proprietary names for many of the more fashionable ones. Under the present system of complicated chemical nomenclature, the outlook as to good results of such substitution is by no means as promising as we might wish. Part III., under the heading of remedial measures other than drugs, we have noticed acupuncture antiseptics (which is treated quite exhaustively), the remedial effects of cold and heat, counter-irritation, disinfection, and venesection, concluding with diets for the sick. Part IV., which is the most interesting portion of the work from a practical standpoint, is treatment of the commoner diseases by the usual drugs, and lastly follows an alphabetical table of doses. The work is well written, is thoroughly practical, and is a valuable addition to the literature of therapeutics.

A Manual of Modern Surgery: An Exposition of the Accepted Doctrines and Approved Operative Procedures of the Present Time. By John B. Roberts, A.M., M.D., Professor of Surgery in Woman's Medical College of Pennsylvania, etc. 8vo, pp. 800. Philadelphia: Lea Brothers & Co. 1890.

This work is a very comprehensive manual upon general surgery, and will doubtless meet with a favorable reception by the profession. It has a thoroughly practical character, the subjects are treated with rare judgment, its conclusions are in accord with those of the leading practitioners of the art, and its literature is fully up to all the advanced doctrines and methods of practice of the present day. Its general arrangement follows this rule, and the author, in his desire to be concise and practical, is at times almost dogmatic; but this is entirely excusable, considering the admirable manner in which he has thus increased the usefulness of his work.

Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 39, No. 4.
Whole No. 1055.

NEW YORK, JANUARY 24, 1891.

$5.00 Per Annum.
Single Copies, 10c.

Original Articles.

THE FRANKLINIC INTERRUPTED CURRENT;

OR, MY NEW SYSTEM OF THERAPEUTIC ADMINISTRATION OF STATIC ELECTRICITY.[1]

BY WILLIAM JAMES MORTON, M.D.,

NEW YORK CITY.

THE object of this paper is to lay before the profession more explicitly the writer's new system of treatment of disease by Franklinic or static electricity. The old system by sparks and other forms of the disruptive discharge upon the person is already sufficiently familiar. What I here designate as my new system has developed itself to me gradually during the last ten years. Parts of it I have published, other parts not. Granting and acting upon that moral dictum which forbids the physician from patenting his inventions and discoveries, I may remark in passing, as illustrative of the disadvantages under which

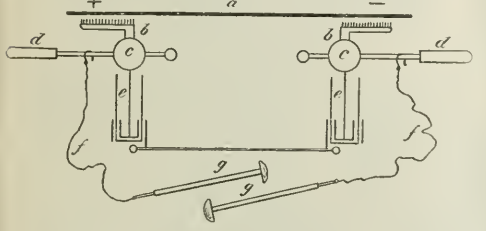


FIG. 1.—Uninterrupted Primary Circuit of a Holtz Machine, with or without Condensers. *a*, Rotating plate; *b*, *b*, collecting combs; *c*, *c*, prime conductors; *d*, *d*, discharging rods; *e*, *e*, Leyden jars; *f*, *f*, conducting cords; *g*, *g*, sponge or other electrodes. Upon grasping the two electrodes and setting the machine in motion no current is felt and no action on nerve and muscle perceived.

he is placed thereby, that some makers of Holtz machines are now generally attaching my inventions to their machines and adopting my methods without the slightest credit, while one even has gone so far as to take out patents for the very things I had published widely. The demands which are daily made upon electro-therapeutics in general and its brilliant extension into the domain of gynecology induces me to now present the facts in their entirety, in order that they may take their share, according to their merits, in the universal progress.

Up to the time of the writer's first apparatus in 1880, and first publication in 1881, concerning "a new induction current in medical electricity,"[2] static electricity had been applied medically by administering a spark, or some modification of it, direct to the person of the patient, or by giving in the same direct manner a single shock from a Leyden jar. From the earliest medical electrifications by the Abbé Nollet, in 1734, onward and successively through the revivals of the practice by Golding Bird, Sir William W. Gull, and Wilks, of Guy's Hospital, London, in 1837, 1851, and 1873; by Schwanda and Clemmens respectively in Austria and Germany; by Vigoroux and Charcot, in Paris in 1879, and by myself in America in 1880, we become familiar with breeze, spray, sparks, and shock, but no mention is made of current disassociated from the spark delivered to the person, nor prior to my own had any electrodes been shown by which a current, except in spark form, could be developed from a Holtz or other influence machine. When, in general, nerve and muscle reactions were spoken and written of, reference was had to galvanic and to faradic currents from coils and voltaic cells, or from coils and magnets, but not to any current derivable from frictional electricity. The spark and static electricity had become synonymous terms. That no one during more than one hundred and fifty years should have sought out the kinetic or current feature of the static discharge (in other than spark form) and harnessed it to an electrode capable of bringing it into use, seems most remarkable—the more so since my kinetic form produces a far greater and more powerful nerve and muscle stimulation per second than the spark form, and if discovered before the days of the secondary coil would at once have brought the frictional machine into the front rank of current administrations.

My new system, published and unpublished, comprises the development by an influence machine of a rapidly interrupted and graduated current, by means of a circuit breaker, introduced into a circuit with and without condensers, and in the medical applications of this current without and within the human body by moistened sponge or other electrodes, just as in the case of the ordinary galvanic and faradic currents.

It involves the removal of the spark, in itself more or less disagreeable and painful and often difficult to localize, especially about the face and neck, away from the patient's body, and yet retaining all the physiological effects of the kinetic or current part of the circuit. The spark is no longer a direct feature of the administration; it occurs at some distant part of the necessarily closed circuit, and in modified form now becomes mainly a regulator for timing the discharge of the equalizing potentials.

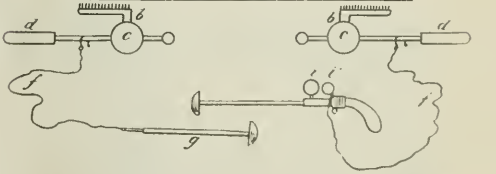


FIG. 2.—Static Universal Electrode. Interrupted primary circuit of a Holtz Machine, without condensers. Parts lettered same as in Fig. 1. *i*, *i*, Static universal electrode in circuit. Upon grasping the two electrodes and drawing the two brass balls *i*, *i*, of the circuit breaking electrode apart a current is felt causing vigorous muscular contractions in ratio with the distance apart of the balls *i*, *i* and as long as sparks will pass between them, in contradistinction to no reaction produced in Fig. 1. Patient insulated. Method applicable to small machines. With large machines method illustrated in Fig. 1 is recommended.

The circuit-breaker is a pair of adjustable metallic ball electrodes, introduced at any point of the circuit, having a narrow air space between the balls; the circuit "makes" when a small spark overcomes the resistance of the intervening air, and "breaks" when it fails to do so, and the current is due to rapidly successive equalizations of the differences of potential of oppositely charged condensers, whether prime conductors or with the addition of Leyden jars. The circuit-breaker serves:

1. To afford time (infinitely brief) to the prime conductors and condensers, if used, to charge.

2. To regulate the frequency of the discharge and col

[1] Read before the New York Neurological Society, Dec. 2, 1890.
[2] Read before the New York Academy of Medicine, March 3, 1881. See New York MEDICAL RECORD, April 2, 1881.

laterally the frequency of the succession of transient currents, so that their aggregate may be classed as a steady current.

3. To determine the strength of the current. This latter may be varied at will and with the utmost nicety, from a just perceptible to a most powerful effect.

The spark circuit-breaker now practically represents the vibrator in the primary of an induction coil; the

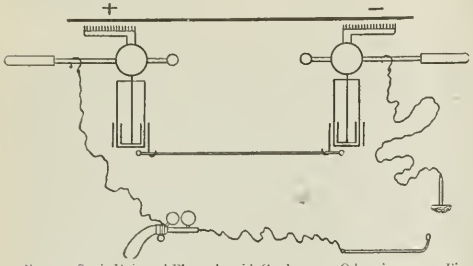


FIG. 3.—Static Universal Electrode, with Condensers. Otherwise same as Fig. 2, but current more powerful. Small condenser preferable.

specific inductive capacity of the air replacing the spring and its magnetic attractability and I use it as in that example and in the same relations, *i.e.*, to interrupt the primary current or by reason of an interrupted primary to obtain a secondary current.

I thus put the use of static electricity on a comparable basis with the other two forms of electricity, the galvanic and the faradic; in short, it becomes kinetic, flowing or current electricity. For just as the infinitely rapid suc-

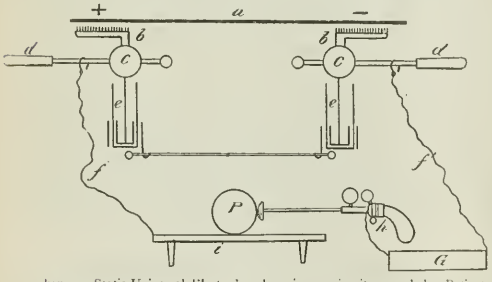


FIG. 4.—Static Universal Electrode. In primary circuit grounded. Patient, condensers, and circuit-breaker in same circuit. Patient on an insulated platform as in giving sparks. *f, f.* Grounded pole of machine and connection to platform; *P*, person insulated; *G*, grounded chain from universal electrode, having curved handle, to be held by administrator and applied upon the person of the insulated subject, strength of current graduated by the finger and adjustable balls of circuit breaker. (See Figs. 6 to 14.)

cessive chemical action in a voltaic cell sets up a similarly rapid successive propelling electro-motive force, termed in its aggregate in a closed circuit a "steady" current, so in this new form, by parity of reasoning, the constantly accumulating potentials, regulated by the sparking circuit-breaker in a remote part of the circuit, discharge with sufficient rapidity to also justify the application "steady" to that succession of impulses, any one of which in its single form is termed a transient current. The current of the induction coil offers a still better parallel. It is a rapid succession of electric impulses, each transient by itself, but taken as a whole steady, and sufficient to maintain a continuous muscular contraction or other effect. Accepting the fact that the rapidity of succession of impulses of the new current is in itself sufficient to produce a steady current, we may now go a step further and say that each impulse in itself consists of a vast number and range of oscillations or alternations (of one hundred millions, for instance, per second), and, putting all the facts together, we may doubtless willingly concede that a current whose physical properties so positively differ from other currents must possess equally positive and differing physiological properties. But we will refer again to these properties later on.

It is too much the custom in medical text-books to make an arbitrary distinction between statical and dynamical electricity. Such a hard and fast line of demarcation in electro therapeutics is misleading. Medically, in static or any other form of electricity, we have nothing to do with the electro-statical phenomena, viz., with stresses and strains set up in insulating, or rather dielectric media. The only thing we have to deal with is current, *i.e.*, electricity propelled along conductors by electrolytic or metallic conduction. The most modern views of electricity are, that what we call electricity is a specialized form of vibration

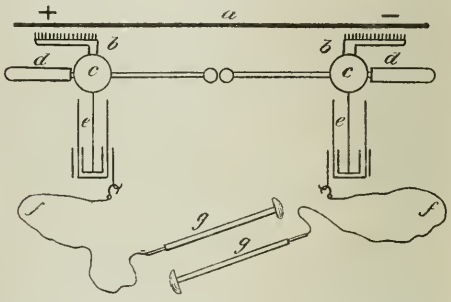


FIG. 5.—"Static Induced Current." Parts of Static Universal Electrode Separated. Person, condenser, and circuit-breaker in same circuit, connecting-rod between condensers removed, and discharging-rods of machine serving as circuit-breaker; but the circuit-breaker is in the primary circuit, and the person in the secondary. The make and break in the primary is accompanied with a current in the secondary.

of the ether which pervades all space and matter. The vibrating ether may be entangled in certain kinds of matter (insulators or dielectrics) and we then have a displacement or strain of this substance (electro-statics), or the dielectric may dissipate its strain in certain other kinds of matter called conductors, and we then have current (electro-kinetics). In franklinization, the stress, strain, or charge is only a condition precedent to the breaking down of the strain (spark) by a rupture of the dielectric (air) and its dissipation along the most convenient conductor (the human body). It is to the current, then, of a statical electrification that we look for a therapeutic effect, not to the electrification itself, and this current we get in a momentary form at every discharge of the electrification, or in steady form, in my own system, of a very rapid succession of momentary impulses, determined by the spark circuit-breaker. The simple charge of a Leyden jar will illustrate our point. For it practically includes the entire domain of electricity; the charge

FIG. 6.—Internal Administration of Sparks. *b*, Electrode; *a*, insulating tube perforated for passage of spark and currents; *c*, guiding handle for regulating length of spark and currents.

of the jar includes electro-statics or electricity at rest, or electricity in strain; its discharge, electro-kinetics, or current electricity, or electricity with the strain dissipated. Medically we use the discharge (spark, current), a point strangely lost sight of by some writers, who, confused by the term static, claim that the treatment is static, *i.e.*, a surface charge, *i.e.*, superficial, and that no effect therefore can be produced beneath the surface. It is time now

that this delusion should be dropped and the fact be frankly admitted that electro-statics in practice will give the physician a current that will demonstrably penetrate the human tissues as deeply as it can be demonstrated that any other current will penetrate them.

insulated), and circuit grounded (best method for external administrations), and

2. By including the circuit-breaker in one circuit and the patient in another, viz., in an induced or secondary circuit (Fig 5).

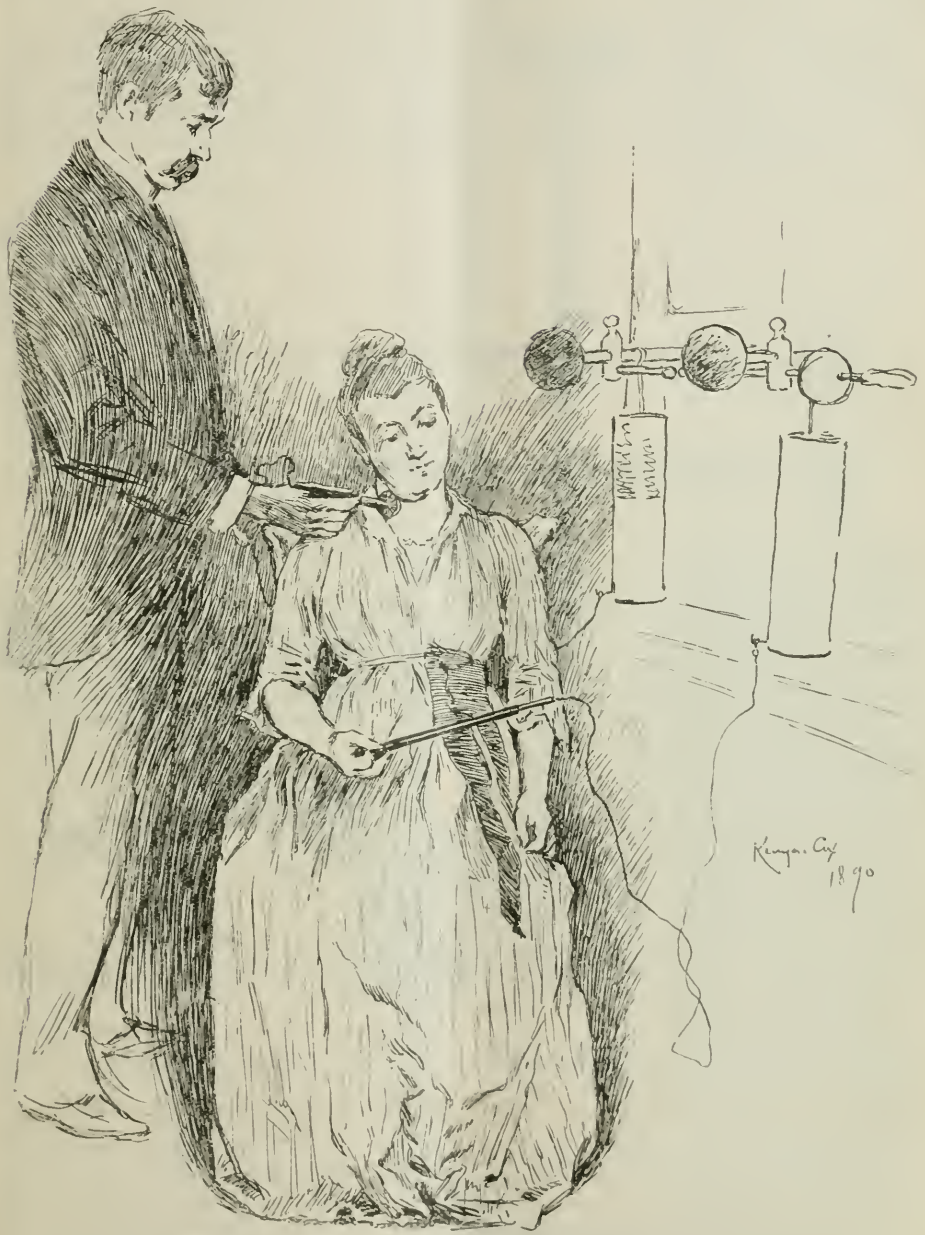


FIG. 5.—Method of Application of the Static Induced Current. One electrode applied to sterno-cleido-mastoid muscle for illustration.

In practice, the electrical principles involved may be carried out by two main methods.

1. By including the circuit-breaker and patient in the primary circuit, with or without condensers. Fig. 2 (without condensers), Fig. 3 (with condensers), Fig. 4 (patient

In both methods sponge and metallic electrodes are used externally or internally, as in ordinary galvanic or faradic treatments. For the former, I have invented a special electrode, for the latter I use the 1880 combination of the parts of the machine as a circuit-breaker.

As I have pointed out in a recent article [1] the spark is not to be regarded by itself and as a mere mechanical and superficial phenomenon like the blow of a light hammer, but as the air part of the closed circuit, whose remaining parts within the body (and in the connections and machine) evoke the well-known nerve and muscle reactions. But effective as this spark direct to the skin is, it has, as might be expected, its quota of disadvantages, among which may be mentioned, the relatively small number of spark currents provokable in a given time by a ball electrode, the more or less painful feeling in the skin, the possible humidity of the air, or of the patient's person, the difficulty of localizing it about the face and neck,

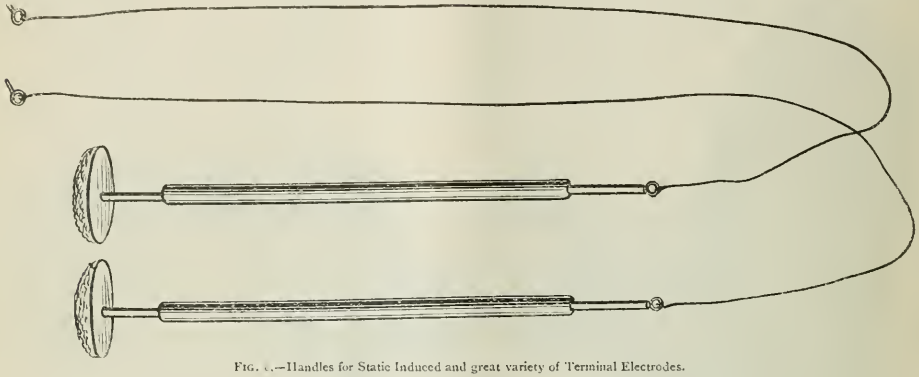


Fig. 6.—Handles for Static Induced and great variety of Terminal Electrodes.

and finally, and most important, the comparative difficulty of using it at all for throat, uterine, and other internal treatment. For these reasons I supplement the usefulness of the Holtz machine and its usual spark administration, and have devised and formulated the present system. Its fundamental principle, as has been pointed out, is that of interrupting the circuit at a point remote from the patient, while still including him in the circuit. And although the static induced current was published, a most useful and important element in the system, and one embodying in itself, in a simple and practical manner, all the principles involved, viz., the statical universal electrode, has only appeared in the catalogues of instrument makers, while concerning the internal use of the franklinic current nothing has been said. It seems therefore advisable now to collect the scattered data and present the system as a whole and as constituting a new system, particularly since no attempt has before been made to formulate the details of mechanical arrangement under one general statement, nor to differentiate the nature of the current and its physiological effects, beyond the general and, in the opinion of the writer, most superficial comparison of the current to the faradic.

The illustrations in this article will serve to indicate the principal connections referred to.

A current may also be obtained by attaching one cord to one prime conductor (with condensers) and the other to the outer coating of the condenser on the other prime conductor, but it is harsh and lacks the good qualities represented by connections as in Fig. 5.

Fig. 1 is shown merely for illustration. There being no circuit-breaker there is no perceptible current. Figs. 2 and 3, though representing perfectly practical connections, especially with small machines, are best replaced in practice and with large machines by Fig. 4.

Fig. 4 represents a working method hitherto undescribed, except by cuts in the manufacturers' catalogues (as early as 1881), embodying, in the simplest and most practical manner, the fundamental principle of my new system, viz., the interruption of the circuit at a point removed from the patient.

[1] New York Medical Record, May 31, 1890.

Fig. 5 represents the secondary current, termed by me the "static induced current," elsewhere referred to. On the whole I give my preference in most forms of treatment to the connections represented by this figure. It will be readily seen that any kind of electrode may be readily attached to the terminals.

Maintaining as I do in practice a continuous action of the machine by water-power, I often find it desirable while making a change in the position of an electrode, Fig. 4, to shut off the electricity without stopping the machine. This I do by simply short circuiting the prime conductors. This procedure obviates the slight spark which inevitably ensues on approaching the electrode to its position, unless this is done while the machine is at rest.

Though here not in line with the exact subject-matter of this paper, I furnish an illustration of an electrode made in a variety of sizes and forms, by aid of which sparks may be administered to the cavities of the body. Though long in use by myself a description of it has not before been generally published. Its applications are manifest, and its modifications manifold, according as it is desired to apply a spark along the urethral canal, to the uterus, throat, or other internal cavity. It may also be used to exactly localize the sparks upon the exterior of the body.

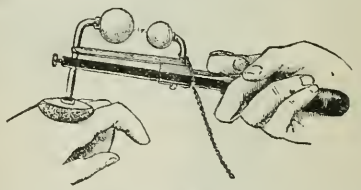


Fig. 9 represents this electrode as constructed in 1880; arranged for a moistened sponge or other terminal. The two adjustable brass balls constitute the circuit-breaker, the spark passes between the two and a corresponding current produces characteristic electric reactions at the point of application of the sponge to the body.

Static Induced Current.—For this current the electrodes and conducting cords must be especially constructed; the metal within the sponge, if a plate, should be rolled back on itself at its edges so as to present a rounded peripheral contour, or, better still, it should be a ball of about one inch in diameter; the handle of the electrodes should be long, and made of ebonite; the conducting cord should consist of a thick strand of fine wire well insulated by gutta percha. These precautions are necessary, owing to the great "tension" of the current and its consequent disposition to break down insulating barriers which in the case of ordinary currents would suffice to confine them to their proper conductors.

To use the current (see Fig. 5), bring the discharging

rods of the Holtz machine into contact, remove the connecting-rod which unites the two Leyden jars, and hook on the two conducting cords and electrodes. The patient need not be insulated. If now the wet electrodes be grasped, the machine set in motion and the discharging rods be separated a very small fraction of an inch, the current will be felt and may be graduated to any strength desired or bearable, and may be localized in its application internally or externally in the usual manner. In this connection I quote one of the concluding summaries in my article read in 1881.

"Ninth. The invention, by the author, of a method of obtaining an interrupted static induction current from a frictional electrical machine adds to medical electricity a new and practical means of electrical treatment."

Static Universal Electrode.—This electrode is so named because the administrator may, by a simple motion of the finger in operating the circuit-breaker change his treatment from sparks to current, and vice versa, and because a great variety of terminals may be quickly attached to it, adapting it to the customary forms of application desired for galvanism and faradism. It will be recognized as a great convenience in a single sitting to turn at once from the spark treatment to an agreeable, regulatable, efficient current for use about the face and neck, and wherever else desired to uncover the skin or to introduce, by adding a suitable terminal electrode, within a canal or cavity.

Physical Properties of the Franklinic Interrupted Current.—I have thus far been unable to find any description of this current prior to my own. And medically it is positively certain that it never had been employed. The statement as usually made is as follows:

"Effects of the electric discharge? The recombination of the two electricities which constitute the electrical discharge may be either continuous or sudden; continuous, or of the nature of a current, as when the two conductors of a Holtz machine are joined by a chain or a wire; and sudden, as when the opposite electricities accumulate on the surface of two adjacent conductors, till their mutual attraction is strong enough to overcome the intervening resistances, whatever they may be." [1]

In the one case, the continuous discharge, we have a current physiologically and clinically producing no effects. For, as is well known, we may hold both hands upon the prime conductors of the most powerful Holtz machine and allow the entire current to pass through our bodies without experiencing the slightest electric sensation.

In the other case, the sudden discharge, we have to deal with the disruptive effects seen in the spark from charged conductors and Leyden jars, now so long the common means of medical administrations. The franklinic interrupted current is neither the sudden and transient form (spark or shock) nor the ineffective, continuous flow, but, as has been pointed out, it is a succession of relatively small, sudden discharges, and it produces the permanent effect of physiological tetanus. It therefore stands distinct and by itself as capable of producing a result unattainable by either of the forms mentioned in books. The comparison to the current of an induction coil or of a dynamo is not an exact one, except as to the point of a rapid succession of interruptions. In the induction coil and the dynamo the series is made up of single impulses, or currents in opposite directions. In the Franklinic interrupted each impulse consists of a series of alternating opposite currents of almost inconceivable rapidity. Joseph Henry discovered that each discharge of a Leyden jar was oscillatory in character, not a single transfer of electricity from one side of a jar to another. In making his original statement, he wrote, there is "a principal discharge in one direction, and then several reflex actions backward and forward, each more feeble than the preceding, until the equilibrium is obtained." His discovery was corroborated, and the theory of it worked out by Sir William Thompson, Feddersen, Helmholtz, Schiller, and others. As now stated by eminent physicists, the number of alternations to each spark is from one hundred thousand to one hundred million per second, according to the capacity and inertia of the circuit. Induction coils have been constructed, giving eight thousand vibrations per second; two hundred per second is probably an average of the medical faradic coil. We cannot, therefore, compare the franklinic interrupted current to such coils.

For computing the spark interruption to be at the least two hundred per second, and the oscillations of each spark to be one

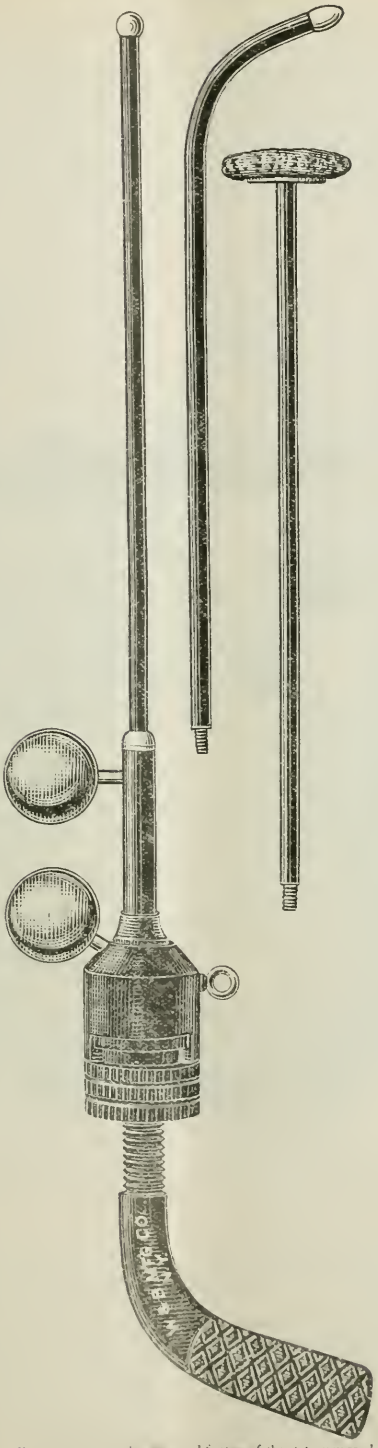


Fig. 10 represents the latest modification of the static universal electrode with a number of terminal attachments. From the shape of the handle this was termed by the manufacturers, and I in want of a better name, the pistol electrode.

[1] Ganot's Physics, p. 674.

hundred millions per second we have a current giving twenty billions alternations per second. Vast as such a number may seem to our minds, familiar with two hundred vibrations per second, it pales before the desideration expressed by Professor Elihu Thompson, the great authority on the properties of alternating currents, who said in a recent lecture, "What is needed is a machine having an alternating current making five hundred trillions of vibrations per second, which would produce many wonderful results." If, then, I were to be asked how the Franklinic current differs from the ordinary Faradic coil I should reply that this one difference of rate of alternations alone placed the two far apart. But, it may be urged, the current of the induction coil is far greater than that of the influence machine in quantity. This is of course true. But at this point in favor of the Franklinic interrupted comes in the element of time. "The motor nerve," says DuBois Reymond, "is not stimulated by the absolute density of the current density at any given moment, but by variations from one instant to the other, and the effect produced by these rapid changes increases with their rapidity and their greatness in a given time." Thus, in the great rapidity of the alternating (oscillating) currents of the spark discharge, particularly in rapid series as in the Franklinic interrupted, we find the reason despite smallness in quantity for accomplishing work in producing nerve and muscle stimulation, equal at least to the comparatively slow discharge, of the interrupted galvanic, or the slowly oscillating induction coil. The difference may be compared to a bullet shot from a rifle or the same bullet gently rolled across the floor.

I have at least made it clear, I trust, that the new current is strongly differentiated from the galvanic or faradic currents, and taking into account its enormous voltage or pressure of 53,000 per linear centimetre, viz., its power of overcoming resistance in the human body conductor, and its other characteristics as above pointed out, we have a right to expect in its medical applications physiological effects differing from those of the other electric currents thus far brought into medical use.

Among other purely physical experiments I have made I will mention that it produces a loud and clear sound in a telephone resembling the sounds made by an induction coil.

Clinical Properties and Medical Uses of the Franklinic Interrupted Current.—Since we are dealing with a current and not a spark, and with the familiar sponge or metallic electrodes, we may invade the entire field traversed by galvanism and faradism, and ascertain for ourselves such differences and similarities as may exist.

Applied to a motor point, the Franklinic Interrupted Current produces most vivid and persistent muscular contraction with a minimum of pain; applied farther back on the trunk of a motor nerve it throws large groups of muscles into contraction. The contraction is peculiarly painless as compared with that of faradic coils, and the influence is remarkably diffusive. Accompanying a contraction of a large group of muscles is a peculiar sensory sensation of lightness and buoyancy of the member. The painlessness, diffusiveness, and buoyancy may all be experienced by holding the two electrodes in the hands, and taking a current as strong as possible. Most people will readily submit to flexions successively at the wrists, elbows, and even to the shoulders before insisting upon taking no more. The arms during the passage of the current feel as if made of cork, and this feeling of lightness persists for some time. It is the same feeling doubtless, though here exaggerated, as is commonly referred to as the refreshing effect of general electrization. The quality of the current is such, that while energetically exciting the motor function of the nerve-filaments, it fails to excite or may even annul, to any extent, the sensation of muscular pain. Its penetrating, diffusive, painless effect, with strong muscular contractions, adapt it admirably to general application over the entire body as an electric in place of an ordinary massage.

It is, of course, applicable to every form of muscular paralysis, for there is no practical stimulus to nerve and muscle except the electric, and none more energetic than this form of it.

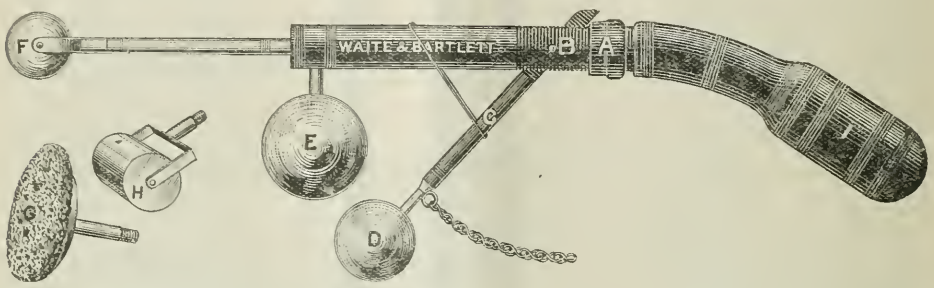


FIG. 11 represents the electrode as now modified and supplied with a variety of attachments, such as sponge, brass ball, throat, urethral, prostatic, rectal, vaginal, uterine, and stomach.

Its effects upon the Hallerian irritability of the muscular tissue necessarily includes an effect upon the local circulation of a part and upon the lymphatics, and to this may doubtless be referred many clinical results of relief, as in lumbago and all forms of muscular rheumatism, subacute and chronic rheumatic affections of the joints, ovarian or pelvic pain, sciatica or other neuralgias.

The second prominent characteristic of this current is its power of relieving pain. Leaving out of sight the part, be it more or less, played by circulatory changes referred to, in this respect there seems to exist a specific analgesic quality in the current. The cotton feeling in the hands, and subjective sense of buoyancy in the arms, is in itself an evidence of this. But the effect upon pelvic pain, upon ovaritis, upon neuralgias, pleuritic "stitches," tonsillitis, and many other pain affections is still better evidence. In sciatica, for instance, the sensation of pain is frequently quickly relieved and a cure obtained, though I think in this case the cause is twofold, that is to say due to both the circulatory and the analgesic effect. The same I believe to be true in the pelvic and ovarian pains.

The results in such cases, in my opinion, are far superior to anything attainable by a faradic or a galvanic application. An ordinary faradic current will increase the pain, the galvanic will very often relieve it. But we have in the Franklinic interrupted no comparison to the electrotonic and polar effects, or in general the electrolytic effects of the galvanic current. Therefore, when the Franklinic interrupted has failed to act favorably, we should try the galvanic, and vice versa. As no observations on the purely analgesic effects of this current have hitherto been made I must leave others to test the question for themselves. And as the paper is not clinical, but simply to outline the subject in a general way, I can-

not burden it with cases which I might give in large numbers.

The motor effect, including the circulatory, cannot be denied; the pain-annulling effect, though clinically demonstrable, is difficult to explain. Perhaps the extraordinary frequency of the alternations of the current per second may explain it. These alternations, it will be recollected, I computed might easily amount to twenty thousand million per second. My own view is that the and fallen under the influence of the stronger vibratory influence. Again, a vibrating tuning-fork may lose its motions by reason of the interfering vibrations of another more powerful one and finally vibrate in unison with it. Or electrically a stretched platinum wire may be thrown into visible vibration by the alternating current which at the same time heats it to redness. Medically I venture the suggestion that the nerve-filaments are set into similar vibrations, and that these overcome the pain, not by coun-

FIG. 12.—Electric Connections and General Method of Administration by Static Universal Electrode. In the cut the wet sponge electrode is applied for example to the facial nerve with characteristic reaction.

great frequency, the fineness, so to speak, of the electric vibrations, which we know as a matter of fact are set up in the nerve-filaments, interferes with and annuls the pain impulse. The carbon filament of a glowing incandescent electric lamp, situated ten feet away from an influence machine discharging sparks, was seen by Dr. H. E. Waite to break. It had evidently been thrown into violent vibration. If it had had a vibration of its own before being subjected to the electric vibration it would have lost it

ter currents, as I understand is the suggestion made by Apostoli, but by simple agitation of the mass of the constituent elements of the nerve-fibre, and thus an annulment of its capacity to conduct pain impulses, just as concussion or anæsthesia of brain-tissue may be said to annul its capacity to respond to sensory impressions. The experiments of Mortimer Granville with his percuteur taught us the benumbing influence upon painful nerves of even coarse vibrations. With alternating electric impulses

of twenty thousand millions per second, more or less, we may find explanation of the analgesic effect of the Franklinic interrupted current. Furthermore, its static quality would enable it to set up an influence in anatomical parts regardless of the intervening medium, as witness the action of the Phelps-Edison induction telegraph, where an inductive circuit sufficient to work a telephone may be set up across an air-space of even forty feet. Surely the analogies of electro-physics are safe guides, and the only safe stand-point from which to study the action of electricity upon the human body.

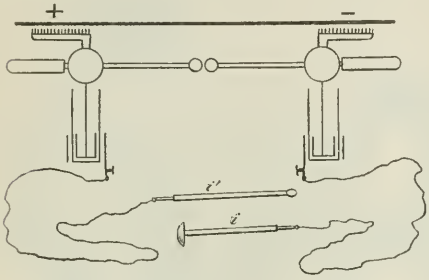


FIG. 13.—Diagram Illustrating Connections for Internal Treatment by the Static Induced Current. *i*, Indifferent electrode; *i'*, interior electrode.

Another effect upon sensory nerves is the production of a sour taste when the current is applied to the tongue, and of slight waves of light when applied about the eye.

Gynecologically my system of conveying the current within the cavities of the body opens out a wide and promising field of clinical results. To improve the nutrition and remove the pain in and about pelvic organs, in itself covers a large number of conditions of the uterus and its appendages, not yet so thoroughly combated as to allow anyone to say that he can do without an agent so potent to relieve pain and restore local and capillary circulation and set up favorable nutritive changes as the Franklinic current has demonstrated itself to be.

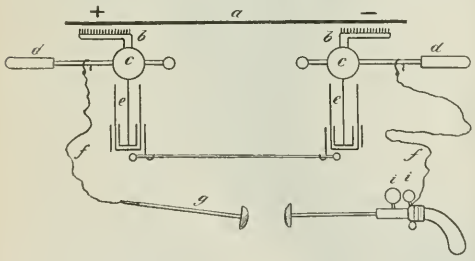


FIG. 14.—Diagram Illustrating Connections for Internal Treatment by the Static Universal Electrode.

Finally, I may say, as a result of a very considerable experience, that this current penetrates as deeply into the human body as even the galvanic, and I have no doubt that tests may be devised to demonstrate that this is a fact. It will not be one of the unusual retributions when it turns out that static electricity, now frequently referred to as superficial and incapable of affecting the deeper tissues, is accepted as being the most efficacious electric means we possess for reaching those tissues.

I shall be content if my contribution of the Franklinic interrupted, and its wide range of internal and external uses, shall help to place electro-statical in that front rank of electro-therapeutics where I believe it should be.

Dr. Ambrose L. Ranney, to whose able writing the subject of electro-statical therapeutics owes much, very kindly remarks: [1]

"The greatest event, after its discovery, in the history of medical statical electrization or franklinism was the invention of the Holtz or induction machine, in 1865. Next in importance, perhaps, is the method discovered and put into practice by Dr. Morton, in 1880, of converting the static discharge into a dynamic discharge or current; and the electrode represented in the above cut [Fig. 10] is the only novel electrode of any importance not bequeathed to us by the medical electricians previous to 1880."

In conclusion, what is here brought forward as new is:

1. The generalization of what I announced as an isolated fact in 1881, that a regulated interruption in the otherwise inoperative circuit of a Holtz machine would produce in another part of the circuit a current adapted to electro-therapeutic practice. This current I now designate the Franklinic interrupted current. It includes the adaptation of the parts of a Holtz machine to produce this result.

2. A new electrode combining this current with various terminals.

3. The practice of introducing Franklinic electricity in current form into the interior cavities of the human body.

In short, a new system of the therapeutic administration of Franklinic electricity in contradistinction to tha system by sparks and its necessary limitations so long in vogue.

19 EAST TWENTY-FIGHTH STREET.

[1] Static Electricity in Medicine, etc. The Physician and Surgeon, July and August, 1887.

DISEASES OF NORTHERN CALIFORNIA INDIANS.

BY LIEUTENANT CHARLES E. WOODRUFF, M.D.,
MEDICAL DEPARTMENT, UNITED STATES ARMY.

Consumption.—An experience of a year and a half among the Indians of Hoopa Valley, Cal., has shown me the extent and malignancy of this disease, particularly among the young people. I do not bring forward any new phases of the affection, but a recital of certain points may be of use for comparison with reports from other sources. A study of these people, and of some other tribes in different parts of the country, may possibly shed some light upon the influence of civilization in developing disease.

The advent of white men is of so recent a date here that one would suppose it an easy matter to determine whether or not consumption was prevalent before that time. There are scores of men and women in this neighborhood along the Klamath and Trinity Rivers who had reached maturity before the white man was seen, and who certainly know something in a general way as to the mortality of the people and the diseases from which they suffered. The difficulty in the inquiry is attributable to the fact that the average Indian is much given to lying. With a profound and serious air, his hand on his heart, and calling on mother earth to witness, he will utter statements at manifest variance with the facts. Some Indians seem desirous of proving that they were better off before the time of the white men; and these have solemnly assured me that in former times disease was a rare thing; that but for occasional accidents in the way of starvation in severe winters, all the people lived to a good old age in the enjoyment of perfect health, and that nothing similar to consumption was known. Others, on the contrary, have assured me that they have always suffered from a fatal disease in which there was a gradual wasting of the body with an uncontrollable cough. Without any suggestion they have volunteered the information that this "must have been consumption." The native doctress is reticent, but if she would talk could probably give little or no information.

They considered disease as a specific entity, probably an evil spirit within the body, causing pain, and to be drawn out by sucking the painful part. The doctress usually goes through various incantations, accompanied with vomitings of froth, probably to indicate that the disease

was absorbed by her and then vomited up; she never looks for symptoms, and is probably unable to tell the difference between consumption and cholera morbus.

Taking for granted that the Indians did formerly suffer from consumption it is a fact that at the present time the disease is exceedingly prevalent and fatal. During my short period of observation I have seen whole families wiped out of existence, the children having been indiscriminately attacked and actually hustled into their graves. It is among the half-breeds, white father and Indian mother, that the greatest mortality is found; the fathers in such cases have been robust and have outlived a numerous progeny.

The susceptibility of the Indian, and particularly of the half-breed, to the diseases of civilization, seems to be most marked in the case of tubercle. To all appearance he may be the picture of health, robust, powerfully built, and possessed of remarkable energy, but let the bacillus of this disease lodge in the lungs and he is seen actually to melt away.

I may refer, in passing, to two apparently strong and robust full-blood women aged about seventeen. These girls contracted consumption after they were photographed, and about six months later one died of the disease, followed in two months by the other.

In view of the contradictory statements it is impossible to decide whether the whites introduced the disease, or by the introduction of enervating habits and syphilis have made it more fatal. It is just probable that the disease has always had a home here, but that its spread was checked by a mode of life almost exclusively out doors. The sick did not survive long enough to be a continued source of contagion, as in cases where modern methods prolong life and facilitate the transmission of the tubercular infection.

The changes wrought by the whites are certainly to some degree responsible for the increased prevalence. The Indian has taken to the clothing, food, and shelter of the whites, but adheres obstinately to certain habits. Formerly while naked he was so inured to cold and sudden changes in temperature that minor ills were probably rare, although pneumonia, I have reason to believe, was not uncommon. By clothing himself he has lost this acclimation to exposures, and has so degenerated as to be less resistant than a white man under similar conditions. Formerly an Indian would wade through mud and water with impunity, for in a few minutes his naked feet and legs would be again dry; now, when clothed and shod, he does the same thing, but he has not learned to change his clothing, and will stand idly around until his clothing dries. Now, also, being less resistant to cold, they crowd together in their rooms for warmth, and a consumptive among them has every facility for spreading the disease.

The question of food is also of importance. Formerly the food was of good variety and adequate to all nature's needs. Salmon, acorns from which nutritious soup or bread can be made, venison, and a large variety of roots, berries, bulbs, and grasses constituted a reasonably generous diet. In taking up the pioneer's bacon and beans they have in some cases forsaken their own better diet. I saw one well-marked case of scurvy, and on inquiry found that the squaw had lived for months on an almost exclusive diet of bacon; but she quickly recovered on a more generous and anti-scorbutic fare. It is not impossible that in the transition to a new dietary their constitutions and powers of resistance become weakened. Yet aside from these adverse conditions there seems to be something in the general constitution of these Indians which makes them extremely liable to contract the disease.

The children that have been taken into white families and raised as servants are an illustration of this. These have originally possessed vigorous health, but after several years of civilization under the best conditions, good food, good clothing, and excellent care, they fall into consumption and die. It was said by a physician of my acquaintance that to take an Indian girl into service is to pronounce her death sentence. This of course is an exaggeration, as I know many Indians raised by whites who are now strong and healthy.

Inasmuch as the climate is favorable, one would expect that incipient cases under proper conditions should get well. I have had under observation for more than a year a case of incipient phthisis in a half-breed whose father is a wealthy ranchman and can afford to produce those conditions which a consumptive should have. This young man is evidently getting better, his cough has subsided, he expectorates no blood, his weight is largely increased and the area of dulness is not so large nor so well marked. Another case, a white woman, has greatly improved. Among poor Indians I have seen but one case which has not progressed rapidly. This man had well-marked dulness with harsh respiration and prolonged expiration eighteen months ago; yet he is now a strong healthy man.

All forms of tubercular diseases are found among the Indians, synovitis, meningitis, peritonitis, and tuberculous glands in the neck accompanying tuberculous lungs, and in many cases the addition of inherited or acquired syphilis aggravates the condition of the individual. Few cases of deformity from tubercular diseases of the vertebra are to be seen. I recall three only; two of them adults at least thirty or thirty-five years of age.

Syphilis.—The evidence that the Indian did not have this disease in former times is somewhat more reliable than in the case of consumption. The infection seems to have been introduced by whites in 1851, and now a large percentage of the Indians have become infected. Although cases of tertiary syphilis are frequently observed there is a remarkable paucity of primary and secondary cases. It is my impression that the Indians do not show the usual secondary symptoms seen in whites. After the primary sore and the enlarged glands appear in the groin not much may be seen until gummata are developed.

Of course the results of syphilis are to be seen broadcast. Blindness or partial blindness from this and gonorrhœa may be found all over the country. One-eyed men are more frequent than among whites, though many of these cases are due to traumatism. I have treated a severe case of syphilitic iritis which had been under the care of an ignorant man who did not recognize its nature, and who allowed it to proceed a long time without specific treatment.

In another case I was particularly struck with the immense depressions and holes in the cranial bones, sternum, and tibia, where gummata had healed.

It is of interest to the sociologist to determine whether syphilis or tubercle has a greater responsibility for the smallness of the Indian families. I do not know of a single family of more than four children; I know of many with only one or two, not that the birth-rate is small but that the mortality of infants is large.

Gonorrhœa.—There seems to be reliable evidence that this also is an importation; without exception all the Indians declare it to have been formerly unknown. At the present time this country may be regarded as a hot-bed or culture-ground of gonorrhœa. There is scarcely a squaw under sixty who has not had it. The men accept it as a matter of course, just as the whites accept coryza as a necessary evil.

As with syphilis, the results are spread broadcast. Stiff joints from gonorrhœal rheumatism (and white swellings also) and ruined eyes from gonorrhœal conjunctivitis are not uncommon. The Indian neglects this trouble as soon as he is free from pain and inconvenience, and it is probable that the strictures which surely now exist will be heard from within the next ten years.

It is needful merely to remark that venereal warts and chancroid are a concomitant in many cases and often exist by themselves.

Rheumatism and Neuralgia.—The careless habits of life of the Indians would lead us to expect that rheuma-

tism and neuralgia were common, and such is the case. The Indians are a people of aches and pains. I believe I have seen every form of rheumatism, from the acute articular disease to simple muscular pains.

In the acute affection the duration of the disease is longer than in the case of whites, but is remarkably short considering the habits of life and the long period of wet and cold weather, from November to April.

A remarkable characteristic is the ease with which they "give up" in the milder attacks of muscular pains, and the persistence with which they will remain in bed or inactive. One middle-aged woman kept to her bed during the whole winter with a lumbago which I am morally certain was not severe, and she hobbled on crutches long after the mild weather came on and complained bitterly until, with the advent of the dry season, every vestige of pain disappeared.

Lobar Pneumonia.—The cases of this disease that I have seen occurred in summer. It differs in no respect from the affection in whites. One case died of starvation, for, in accordance with their usual custom, they will not eat when sick. This man was large and robust, but after ten days of starvation he became much reduced. By the effort of friends he was made to eat and was on the road to recovery, when, for a headache, he called in a native doctor, again refused to eat, and died a few days later.

Leucoderma.—The case of leucoderma (picture enclosed) is unique. I cannot learn that such a case has been heard of before among these Indians. The white spots began about a year ago, or probably longer, the patient's statement being unreliable. The legs are not so much involved as the body, and the back not so much as the chest and abdomen.

Conjunctivitis.—The native Indian huts have no fireplaces nor chimneys—a hole in the centre of the roof is made for such. As a result of this the smoke from the fire built in the centre of the floor fills the house and causes conjunctivitis. In some of the old squaws the condition of the eyes is wretched, the lashes having dropped out and the whole lid become a mass of granulations. As I have seen the same condition among other Indians, it may be common to all who have huts of their own construction.

The following cases are merely curiosities, as I have seen but one of each: A child of two years was brought to me with all the signs of acute polio-myelitis anterior. It had been sick for two months, and was now almost completely paralyzed in its lower limbs; huddling in a helpless condition in its mother's arms.

Another child of six or seven was a typical case of pseudo-hypertrophic muscular paralysis. The calves of the legs were quite large, but the muscles around the shoulder, breast, and arms, were much wasted. His waddling gait and sway-back position when standing were so characteristic that I regret exceedingly not taking his picture to enclose with this paper.

I take occasion in this connection to allude to a typical case of locomotor ataxia, in which all the usual symptoms, from the absent patella reflexes to the characteristic trophic ulcer on the heel were present. He is now barely able to move around, and when in the standing attitude he is compelled to brace a balance on his crutches that he may obtain four points of support to keep him upright. His upper extremities are also considerably affected, so that he even cannot use the crutch and cane except with great difficulty and awkwardness.

Ovarian Cyst.—One case of large ovarian cyst, from which ten quarts of fluid were withdrawn by tapping, has come to my knowledge. The fluid withdrawn was of specific gravity of 102, and contained numerous cells, among which were large round Drysdale cells, containing highly refractive granules. The woman was doing very well at last report, but the cyst is undoubtedly refilling.

Penetrating Gunshot Wounds of the Abdomen, with Recovery.—The following case of gunshot wound in the case of a half-breed, came to my notice, but not under my care. The bullet entered the back about two inches from the median line and two and a half inches below the margin of the ribs, and came out two inches to the right (?) and about two inches below the umbilicus. He had not a single untoward symptom, and recovered fully in about three weeks, without any special treatment. The bullet in its course had evidently escaped all important viscera, though it entered immediately over the position of the kidney.

Rhus Poisoning.—Although the whites are often affected by "Poison Oak," which grows in great luxuriance throughout this country, the Indians do not seem to be susceptible to its influence at all; indeed, they use the stems of the plant to make baskets.

The Black Teeth of Malays.—The Government of Brumah has lately published an interesting report by Mr. Merrifield on the prospects of planting in Mergui, in the extreme south of Tenasserim, in the course of which he corrects the common error that the black teeth of the Malays and Siamese are due to chewing betel mixed with lime. It appears that the black color of the teeth is due to a special process employed for the purpose, for no respectable Siamese would like to have white dogs' teeth, like Chinese, Indians, and Europeans. Cocoanut kernel is carefully charred, and then worked to a stiff paste with cocoanut-oil. When carefully and regularly worked over the teeth, this produces the black varnish which is so much admired. Among some Malay tribes it is considered the proper thing not only to blacken the teeth, but to file them down to points like shark's teeth. "A Siamese or Malay man or woman does not strike a European as beautiful when yawning."

HYPODERMIC MEDICATION IN DISEASES OF THE EYE.

By CHARLES J. LUNDY, A.M., M.D.,

PROFESSOR OF DISEASES OF THE EYE, EAR, AND THROAT IN THE DETROIT COLLEGE OF MEDICINE, OPHTHALMIC AND AURAL SURGEON TO HARPER HOSPITAL, ETC.

Hypodermic medication is by no means new to the medical profession. The hypodermic syringe, since its introduction by Alexander Wood and its improvement by John Hunter, has been used more or less extensively; but within the past decade its use has become more wide-spread, and it has been employed in many cases where formerly other means were relied upon. During the past fifteen years I have used the hypodermic method of medication, either alone or as an adjunct, in the treatment of a large number and variety of cases occurring in my ophthalmic practice. The results in most of these have been eminently satisfactory, and the cases of failure have been few. The total number of injections amounts to several thousand, which were administered either by myself or under my direction by my assistants, Drs. Arnold, Marvin, Campbell, and Roller, gentlemen who have been in my employ at different times during the past several years.

In not a single instance has an abscess formed, and discomfort or severe pain has been seldom complained of. In two or three instances, where an assistant failed to insert the needle sufficiently deep, slight ulceration of the skin followed.

In the main, the injections were deep, or what Dr. Bartholow calls parenchymatous injections, as distinguished from injections made just beneath the skin. The injections were made into the arms, thighs, and gluteal region, and the amount of fluid used at a time rarely equalled half a drachm. Large quantities of fluid are more likely to cause pain and discomfort.

The remedies which have been thus employed are strychnine, pilocarpine, ergotin, and several salts of mercury; and these have been administered in such diseases as amaurosis, choroiditis with hyalitis, detached retina, and syphilitic affections of the eye.

Amaurosis, or blindness, due to the effect of alcohol and tobacco, has long been recognized by the ophthalmic surgeon; but amaurosis due to the excessive use of tobacco alone has been denied by a few. Undoubted cases of tobacco amaurosis, however, have been observed and reported by such authorities as Sir Jonathan Hutchinson, Nettleship, Alt, Chisholm, Agnew, Noyes, Webster, Berry, Uhthoff, and many others.

Ophthalmoscopic appearances are not always characteristic in this disease, but central scotoma is frequently present and the color-sense is impaired in the vast majority of cases; and these points, together with a knowledge of the patient's habits, will often aid us in making a correct diagnosis. In tobacco amaurosis Hutchinson says that the nutrient vessels of the optic nerve become smaller and finally disappear, while the retinal vessels may be but slightly altered. In these cases I have never observed the peculiar capillary congestion of the optic disk and retina which is a characteristic of so many cases of chronic alcoholism, and neither have I observed that the atrophic changes are so well marked. Noyes considers that atrophy follows neuritis in these cases, and that the lesion may be at any point between the chiasm and the intra ocular end of the nerve. The optic disk is first congested, but the ophthalmic surgeon is not often consulted during this stage. Atrophy follows, with disappearance of the nutrient vessels of the disk. Sight may be slightly or greatly diminished. Central vision fails first, and the color-perception is generally early impaired.

In the treatment of tobacco amaurosis the hypodermic use of strychnia has proven itself of inestimable value. Ophthalmic surgeons have for years relied upon this method of medication, and have considered it superior to all others. My own experience coincides with that of other specialists, and bears testimony to the marked benefit to be derived from its use in such cases. Of the several cases which I have seen, the following is one of some interest:

Case I.- George B——, aged forty, Dresden, Ont., came to consult me on October 5, 1883. For more than a year his sight had been failing, and he could no longer see to read and write, or to shoot with a rifle, a sport to which he was greatly attached. Vision in right eye equalled $\frac{20}{100}$, in left eye $\frac{20}{200}$. Central vision not so good. Color-perception much impaired. Ophthalmoscopic examination showed the media clear and the optic nerve pale and slightly atrophic. His habits were good, except that he was a constant user of tobacco. He used no liquors whatever. My diagnosis was tobacco amaurosis. Daily injections of strychnia one-twentieth grain, were begun, and the dose was rapidly increased till one-fifth of a grain of the nitrate of strychnia was given once a day. The use of tobacco was prohibited. The improvement in vision was soon apparent, and went steadily on till vision in the right eye reached $\frac{20}{20}$, or normal, and in the left it was only a little less acute, being $\frac{20}{30}$. The patient was sent home, and given strychnia pills to be taken for some time. At the end of a year his vision remained good. Would this patient have regained his sight without treatment had he simply discontinued the use of tobacco? I think not; at least my experience has taught me that abstaining from tobacco alone is not sufficient to effect a cure in advanced cases. Even strychnia does not cure all cases where the sight is very poor and the disk is much wasted. In amaurosis depending upon the combined ill effects of alcohol and tobacco, it is a mooted question whether the alcohol or the tobacco is the more active agent in producing the changes to be observed. Chronic alcoholism produces marked changes in other nerve-structures, and I am fully persuaded that it also produces certain changes in the optic nerve. In the first stage there is a capillary congestion, the larger vessels not being involved to any extent, though the retinal veins are usually full. Later, a pale, slightly wasted appearance of the temporal side of the nerve will be observed, and if the vicious habit is persisted in, the whole of the optic disk becomes more or less pale and atrophied. Bull, quoting Romiée, says that the nerve fibres undergo fatty degeneration, accompanied by an increase of connective tissue. Noyes considers that "the pathological lesion is atrophy following inflammation of axial fibres of the nerve."

The ophthalmoscopic appearances are not always a correct index as to the degree of vision in these cases. Even where very slight atrophic changes have taken place, the vision may be greatly impaired.

Case II. is an example selected from numerous cases of amaurosis occurring in chronic alcoholism. M. D. M——, aged forty-three, Alpena, came to consult me in December, 1887. On examination, media clear, optic nerves showed capillary congestion on nasal half of disk, while the temporal side of disk showed beginning atrophy. Retinal veins enlarged but not tortuous. Vision in right eye $= \frac{1}{10}$, in left eye $\frac{1}{10}$. The central scotoma was here quite apparent, for these types could not be seen in central portion of the field. Of course, with such poor vision it was useless to test the color sense. He gave a history of long and free use of whiskey, and the moderate use of tobacco, with the exception of a few months when under the care of another physician, some eight months before he consulted me. The diagnosis was amaurosis from excessive use of alcohol, and treatment was begun accordingly. Free doses of potassium iodide, with bitter tonics, were given for about three weeks, and hypodermic injections of the nitrate of strychnia were given daily, beginning with one-sixteenth of a grain and increasing the dose gradually to one-fifth, and sometimes to one-fourth of a grain. Total abstinence from both alcohol and tobacco were rigidly enforced, and in order to accomplish this it was necessary to put the patient in hospital under

guard. Improvement went on rapidly. At the end of three weeks the potassium iodide was discontinued and galvanism was administered daily, and the strychnia injections were continued. At the end of seven weeks the general appearance of the patient was greatly improved, the optic disks looked more healthy and had lost much of the capillary congestion observed on nasal half of disk when first examined. Vision had increased in a remarkable degree, being $\frac{2}{5}\frac{0}{0}$ in right eye, and $\frac{2}{5}\frac{0}{0}$ full in left eye. For the near test, Jaeger, No. 1, could be read easily. For a year after dismissal the patient remained well, and, so far as known, his eyesight remained good. This patient had been treated eight months previously for his amaurosis by the internal use of strychnia, etc. In the hypodermic administration of strychnia a dose should be given once, daily, sufficient to produce the fullest physiological effects of the drug.

In detachments of the retina I have used the muriate of pilocarpine in several cases. In a majority of these there was some improvement of vision. This was probably due to its beneficial effect in clearing up the cloudiness of the vitreous, which so frequently follows the retinal detachment. In the cases of long standing there was little or no improvement as far as the retinal detachment itself was concerned. I now never use it in such cases. In cases of recent detachment of the retina, however, the hypodermic use of pilocarpine is well worthy a trial, as the following case will show:

Case III.—Miss A. C——, aged twenty-seven, came to consult me September 9, 1889, complaining of great loss of sight in right eye. She said she had a persistent sensation as if something were waving or floating in front of her. Ophthalmoscopic examination revealed an extensive detachment of the retina from the temporal side, which caused the sensations described. She was highly myopic. Vision equalled the ability to count fingers at a distance of between one and two feet in the central field; but upon turning the head so that rays of light fell upon the nasal side of retina, vision was much better.

Upon careful inquiry it was learned that, two weeks before, she was thrown from a carriage, striking on right side of head and shoulder. The failure of vision was gradual at first, but it had failed greatly for two or three days previous to consultation. The hypodermic use of pilocarpine was begun at once. The dose administered daily was increased gradually from one-twelfth to one-fourth of a grain. The latter dose produced free perspiration and flowing of saliva, with disturbance of the heart, giddiness, and sense of weakness. The injections were continued daily for about five weeks. At the end of that time vision had increased to $\frac{1}{1}\frac{6}{0}\frac{}{5}$. Ophthalmoscopic examination at this time showed almost complete restoration of the retina. Vision in the right eye had always been poor, and even in the uninjured eye it was only $\frac{1}{6}\frac{6}{0}$ with correcting glass.

Landesberg, of Philadelphia, and others, report gratifying results from the hypodermic use of pilocarpine in intra-ocular hemorrhage, opacities of the aqueous and vitreous humors, in choroiditis and detachment of the retina.

My own experience with hypodermic injections of pilocarpine in choroiditis and vitreous opacities has not been large. Neither have I been so successful in its use as Landesberg and some others.

Case IV.—Mary B——, aged thirty-two, is a fair example of the few cases in which I have used it hypodermically. This patient had disseminated choroiditis, with some cloudiness of the vitreous. She had been vigorously treated by another physician, who had given her protoiodide of mercury, the iodide of potash, mercurial inunctions, employed local blood-letting, etc. Vision in right eye $= \frac{2}{1}\frac{0}{6}\frac{}{5}$, and in left vision $= \frac{2}{1}\frac{0}{0}$. Injections of pilocarpine were not well borne, and only one sixth of a grain was given once daily. In four weeks vision was $\frac{2}{1}\frac{0}{0}\frac{}{0}$ in right eye, and $\frac{2}{4}\frac{0}{0}$ in left. The vitreous had cleared up considerably, retinal congestion had diminished, but there was no appreciable change in the choroidal spots. Improvement did not continue, and the injections were stopped two weeks later.

During the past few years the treatment of constitutional syphilis by hypodermic injections of mercury has attracted considerable attention. The various salts of mercury, as well as the metal itself, have been employed in this manner; and, as might be suspected, each particular preparation has its own advocates. I have not seen reports of any cases where the hypodermic injections of mercury were administered in syphilitic affections of the eye; but it is probable such cases have been reported. In the general treatment of syphilis it has been administered hypodermically in all stages of the disease and in a variety of ways.

Lang injects forty-eight grains of metallic mercury at two points during the same visit, and selects the back as the best point for the insertion. He mixes the mercury with lanolin and olive oil. He does not repeat the dose until after a lapse of from five to eight days.

Bender prefers calomel suspended in oil for hypodermic use. Hoffman found abscess to follow five times after ninety-six injections of calomel.

Wilander advocates the hypodermic use of calomel and other insoluble salts of mercury, but admits that he has seen abscess follow their use. Others prefer the albuminate of mercury, some the perchloride, others again the mercuric cyanide.

My own experience with the hypodermic use of mercurials in the treatment of syphilitic affections of the eye extends over a period of between four and five years. About four years ago I exhibited before this society some cases in which the hypodermic use of mercury had been employed with marked success.

I have experimented with several salts of mercury, but mainly with the sublimate, the albuminate, the salicylate, and the mercuric cyanide. The sublimate is irritating to most patients, and the albuminate and salicylate are not sufficiently soluble. The cyanide I have found the most satisfactory. Of this I inject daily about one fifth to one-fourth of a grain, beginning with a smaller dose. My experience with hypodermic medication has been confined mainly to its use in ophthalmic practice. I have treated thus a considerable number of patients exhibiting a variety of affections occurring both in secondary and tertiary periods. These have embraced diseases of the optic nerve and retina, paralysis of the ocular muscles, inflammations of the uveal tract—including the iris, ciliary body, and choroid—vitreous humor, and also gummy tumors of the iris, with iritis, etc. In the majority of these cases other remedies or modes of treatment had been tried by others or by myself, so that it was an easy matter to make comparisons as to the effectiveness of the hypodermic injections. In only one case did the hypodermic method prove less effective than others, and that was a case of iritis. In one case of choroiditis the improvement was as great as, but no greater than, when remedies were administered by the mouth. In all other cases the hypodermic medication proved itself superior to any and all others. It should be stated, however, that local treatment was also given in many of these cases; for example, in all cases of iritis and irido-cyclitis, atropia, hyoscine, etc., were freely employed, and in many other cases other remedies were administered when indicated.

The following cases are cited as illustrations of the facts here given:

Case V.—Mrs. S. E——, aged thirty-five, was brought to me, September 9, 1886. She gave a history of having contracted syphilis three years before. Although she had received treatment with mercurials and iodide of potash for the major portion of that time, she developed an unusual number of syphilitic lesions, such as papillary and squamous syphilides, sore-throat, falling out of the hair, iritis, etc. Seven months before consulting me she began to suffer from attacks of vertigo, nausea, and vomiting. A month later she had a paralytic stroke. The left arm and the left side of the face were paralyzed, from

which she had nearly recovered. Three months later she began to experience difficulty in co-ordinating her movements, which difficulty continued to date of examination. The patient was unable to stand or walk unaided.

In the right eye, old pupillary membrane from iritis, paralysis of external rectus muscle. In the left eye, complete paralysis of all the muscles except the superior oblique. Optic neuritis in left eye, which probably also existed in right, but on account of the pupillary obstruction no satisfactory ophthalmoscopic examination could be made. Memory and intellect were also somewhat impaired.

Treatment with large doses of iodide of potash was begun, together with mercurial inunctions at bedtime. Patient made slight improvement, but the iodide of potash produced such distressing symptoms that it was necessary to abandon it. The mercurial inunctions were ordered continued night and morning, with but little apparent benefit. Having had good results from hypodermic injections of mercury in previous cases, I began their use in this case. The beneficial effects were soon made manifest. The salt employed was the perchloride of mercury, and the beginning dose was one-twelfth of a grain, which was increased to one-fifth of a grain. Improvement, both in the condition of the eyes and the general condition, went steadily and rapidly on. At the end of four weeks after the first injection the optic neuritis was almost entirely cured, and the muscular control of the left eyeball had in part returned. The paralysis of the sixth nerve of the right eye had disappeared, and the patient could walk quite well, although there was still some lack of co-ordinating power. The use of the faradic current to the eye muscles was begun, and the injections were continued. The patient improved daily, grew strong, and increased in weight, and the paralyzed eye muscles one by one regained their normal power, except the external rectus of the left eye, which remained a trifle weak, although it had been the first to show improvement, so much so that for several weeks the left eye squinted outward. With the exception of the slight defect in the external rectus muscle of the left eye referred to, the case terminated in complete recovery, and whereas she was unable to stand or walk alone at the beginning of treatment, she was eventually able to walk several miles without fatigue.

Case VI. *Irido cyclitis, with Gumma of the Iris and Ciliary Body.*—Mrs. C——, aged thirty-five, consulted me, March 12, 1889. She gave a history clearly syphilitic, and for this she had had long periods of treatment. Three months previously her left eye reddened up, and became painful, but the trouble soon subsided, leaving vision unimpaired. Seven weeks before I saw her her left eye again became congested, painful, and inflamed, and the attending physician called in a specialist, and the two physicians had her continuously under their care until I saw her. She presented the following conditions: Great emaciation and prostration—she seemed a physical wreck, and with difficulty could stand or walk alone. Left eye intensely congested, a large gumma half filled the anterior chamber, the origin of which was in the upper and outer quadrant of the iris. It involved the ciliary body, and there was distinct bulging in the ciliary region at that point. The eye was totally blind, and had been for some weeks. There was no perception of light. The diagnosis was syphilitic irido-cyclitis, with gummy tumor of the iris and ciliary body. Right eye was normal, but showed symptoms of sympathetic irritation. There was also extensive ulceration of the throat. To relieve the intense pain of her eye, she had taken morphine several times a day, and although it had some influence upon her pain, it produced great gastric disturbance. On this, as well as on other accounts, I decided to try the hypodermic injections of mercury, and until such time as the full dose, one-fourth grain, was given she was also to use inunctions of the oleate of mercury at bedtime. The inunctions were discontinued after a few days. The mercuric cyanide was injected daily, and the dose rapidly increased to one-fourth of a grain. Savory & Moore's pancreatic emulsion was ordered, with beef-essence, milk-punch, and a generally nutritious diet. Atropia and cocaine were dropped into the eye several times daily. The patient's general condition improved rapidly, and the pain in the eye became less intense. On the fourth day a large portion of the gumma sloughed off, and seemingly filled the anterior chamber with a dirty, yellowish-gray mass. This quickly underwent absorption, and the gumma diminished rapidly.

On March 28th, sixteen days after the first visit, she had almost completely recovered from the severe irido-cyclitis and the gumma had entirely disappeared. At intervals, now, the hypodermic injections were suspended for one, two, or three days at a time, when she complained of stiffness or soreness of the muscles. During such periods she was given the iodides in small doses, or, when the stomach did not tolerate the iodide, mercurial inunction was employed. At the end of a month, all signs of inflammation having disappeared from the eye, the hypodermic injections were discontinued. She was ordered small doses of the iodide of sodium, which were alternated with protoiodide of mercury pills, and occasionally all treatment was suspended for periods of two or three weeks at a time. Occlusion of the pupil having resulted from the severe inflammation, I deemed it advisable to make an iridectomy, for artificial pupil. On July 16th I made an upward iridectomy, which gave her very good vision. But my notes do not give the visual acuity.

Why were not other modes of medication used, it may be asked? Because they had been long and vigorously used before she came under my care, and the result was a most pitiable failure. The patient's eye was in imminent danger of being destroyed, and the most effective means at my disposal were absolutely demanded. In concluding the notes of this case, I would say that the tension of the eyeball was above normal until all signs of the gumma had disappeared. This I have found to be true in all cases of large gummy tumor involving the ciliary border of the iris.

Case VII.—A. M——, aged fifty-three, consulted me, in November, 1887, for an affection of his ear. At that time it was noticed that his eyes seemed weak and lachrymose, but as patient did not complain of his eyes nothing was said regarding them. February 4, 1888, he came complaining that his eyes troubled him, and that his sight was greatly impaired. On examination the following conditions were noted: Right eye, marked ciliary congestion, lachrymation, and dread of light; vitreous hazy and full of floating bodies. Left eye, intense ciliary congestion, profuse lachrymation, great pain and tenderness on pressure, pupil contracted and irresponsive to light, discoloration and congestion of the iris, with posterior synechia; vitreous cloudy and filled with floating bodies. No satisfactory view of the fundus could be obtained in either eye. Vision, right eye, $\frac{1}{\infty}$, and left eye vision = perception of shadows, barely. Diagnosis, irido-choroiditis, with hyalitis. The patient had suffered from several attacks of rheumatism, and while there was also evidence of syphilis, the eye trouble was thought to be rheumatic in origin. He had been previously treated for rheumatism, but never with satisfactory results. In addition to local treatment with atropia and cocaine, I ordered salicylate of soda, in fifteen-grain doses, to be taken steadily till the full physiological effects of the drug were produced. This was continued for four days. While the salicylate relieved his pain to some extent the results were far from satisfactory. A saturated solution of iodide of potash was then prescribed, of which the patient took twenty-five drops well diluted, three times a day, the dose to be increased to fifty drops three times daily. In addition to this, mercurial inunctions were ordered night and morning. On March 4th, twenty-nine days after beginning treatment, the eyes were practically in the same condition

as on date of first consultation, except that the pupils were widely dilated and the posterior synechiæ in left eye were broken up. There was no improvement in vision, the eyes remained red, but a little less painful. Hypodermic injection of the cyanide of mercury was then begun, and the dose, given once daily, was increased from one twelfth to one fourth of a grain.

March 7th.—Marked improvement in every respect.

March 10th.—Ciliary congestion greatly diminished and pain entirely gone.

March 20th.—Vision shows improvement for the first time.

March 27th.—External appearance of the eye perfectly normal, and no indication of any inflammatory trouble except upon ophthalmoscopic examination. Ophthalmoscope shows vitreous still cloudy, with many floating bodies. From this time on, vision improved steadily and rapidly until it became normal in the right eye, and $\frac{12}{100}$ in the left. The cloudiness of vitreous in left eye still remains. This patient was given about sixty injections. He was entirely cured of his rheumatism.

Case VIII. *Syphilitic Iritis.*—August Q——, aged fifty, consulted me January 11, 1889. For two or three days eyes have been irritable, which patient attributes to reading late at night. Some congestion of conjunctiva, especially of right eye. Pupils responsive to light. Vision $\frac{20}{20}$, or normal. After instilling a few drops of homatropia in right eye, the pupil dilated readily and *ad maximum*. Ophthalmoscope showed media clear, and slight retinal hyperæmia. Next day patient complained of lancinating pains in right eye. Atropia was instilled and the patient was directed to return next day. He did not return, however, for forty-eight hours.

January 14th.—Right eye showed ciliary congestion, pupil not responsive to light, and did not dilate readily under use of atropia. Protoiodide of mercury, one-fourth grain, three times daily, and also mercurial inunctions were ordered, also the free use of atropia.

January 16th.—Pupil contracted, despite the free use of atropia; aqueous humor cloudy, vision greatly impaired, and considerable pain.

January 17th.—Eye much worse. Pupil greatly contracted and filled with lymph, intense ciliary congestion, severe pain, no reflex from fundus of eye, and vision reduced to perception of shadows. Iodide of potash in large doses was substituted for the protoiodide of mercury, and the inunctions and atropia were continued, and leeches were applied to temple.

January 18th.—The patient passed a wretched, sleepless night, and feels much depressed over the loss of sight in right eye, which is now complete, there being no light-perception. Treatment continued without change.

January 20th.—Conditions remained the same. Hypodermic injections of the mercuric cyanide, one-fourth grain, were begun, and the iodides were discontinued.

January 23d.—Some improvement is manifest, less pain, and patient sees light.

January 26th.—Improvement well marked, aqueous humor less cloudy, lymph absorbing, and some red reflex from fundus of eye; patient can count fingers.

From this time on improvement was rapid. Within two weeks from this date nearly all evidences of the severe inflammation had disappeared, the injections were discontinued, and patient came irregularly. About this time he spent several hours, driving a horse and cutter, in a sharp wind, and the exposure brought on a slight relapse which yielded to treatment within two or three days. On February 15th he was dismissed cured, with vision $\frac{20}{20}$.

My experience with hypodermic medication in inherited specific keratitis has not been extensive, and my success with it has not been so flattering as in most other cases.

Case IX.—T. M——, aged eighteen, a strong, vigorous man, was referred to me by Dr. Chittick, and from the doctor a distinct syphilitic family history was obtained. Left eye, profuse lachrymation, cornea greatly infiltrated and vascular, great ciliary congestion, ciliary neuralgia, and vision reduced to perception of shadows. The disease was of several weeks' standing and during most of this time he received from another specialist treatment which consisted in the main of potassium iodide and locally atropia. I ordered atropia and hyoscine locally, and the iodides were given in large doses. There was little improvement for some weeks, and I began the hypodermic use of the mercuric cyanide. While the improvement was still slow, it was more satisfactory.

Early in August the right eye became affected, and grew slowly worse despite the treatment. On August 19th five leeches were applied to right temple. On September 14th both eyes greatly improved, the right one improving most rapidly. The hypodermic injections were now discontinued. The mydriatic was kept up, and at intervals the iodides or protoiodide of mercury pills were given. Improvement continued and patient regained a fair degree of vision. On April 14th I saw the patient, after a lapse of several months, he having spent a good portion of it in the South, and on examination vision in right eye with $-\frac{1.5}{20} = \frac{20}{40}$, and in left eye $= \frac{20}{70}$.

The advantages of hypodermic medication over other methods are probably due to several causes, and its use under proper limitations may be commended upon the following grounds:

First. The medicine does not escape through some natural channel before it has entered the circulation, as is so often the case when medicines are administered by the mouth.

Second. The dose can be regulated with greater accuracy, and the action of the drug is more certain.

Third. The full physiological effect can be gotten almost instantly because the remedy is more quickly diffused through the system, and with drugs like strychnine, pilocarpine, etc., this is most important.

Fourth. In some instances results can be obtained by the hypodermic method which cannot be obtained otherwise.

Fifth. I have never seen ptyalism follow the hypodermic use of mercury.

Sixth. When medicines are not well borne, or when they produce unpleasant symptoms, hypodermic medication in appropriate cases will meet every indication, and will often prove itself superior to other methods.

Progress of Medical Science.

Posture in the Treatment of Nocturnal Incontinence in Children.—Dr. van Tienhoven suggests that in this condition though the bladder acts normally through the day, it misbehaves at night. He believes that the vesical sphincter is not strong enough to keep back the urine which collects in the bladder in the early hours of the night and permits it to find its way into the prostatic portion of the urethra. The detrusor vesicæ is thus reflexly stimulated and the bladder emptied. In order to prevent the urine from running into the urethra in this way the children were made to sleep with the pelvis elevated. In this position the bladder is capable of holding a certain amount of urine before the liquid reaches the level of the urethral opening. The foot of the bed must be elevated so that the bed forms an angle of forty-five degrees with the horizontal. The children should be sent to bed with empty bladders, and should not take any liquid just before retiring. They sleep well in this position and do not complain. Fourteen cases were treated by this simple method only, and all were cured in a short time.—*Correspondenzblatt für Schweizer Aerzte.*

Nephrectomy of One-half of a Horseshoe Kidney.—Professor Socin records a case of a woman, aged forty-seven, who had suffered for thirty years with one of her

kidneys; pain, colic, and pyuria had all attacked her in turn. The swelling at the time of operation was as large as one's head. An incision was made on the outer border of the rectus, and the tumor was found with the colon in front of it and to its inner side. It was punctured, and after the fluid was let out the edges of the opening were stitched to the abdominal incision. About a week later, as it was evident that the opposite kidney was healthy, and at the patient's urgent request, abdominal nephrectomy was performed. During the course of the operation the kidney was found to be attached across the middle line to its fellow, and had to be severed from it with the cautery. The patient made a good recovery. Socin draws attention to the fact that this is the only recorded instance in which a successful result has been obtained in such a case.—*Beiträge zur Klinischen Chirurgie.*

The Heart Disorders of Climacteric Women.—According to Dr. Kirsch, in the climacteric period of a woman's life she frequently becomes subject to a series of heart disorders without having had any definite disease of the organ at any time previously. The author describes three distinct varieties. The first is paroxysmal tachycardia. This occurs in plethoric women aged from thirty-eight to forty-eight. The percentage of hæmoglobin ranges from 110 to 120, against 93, the normal hæmoglobin percentage. In the earlier period of the climacterium the women begin to complain of palpitation coming on without provocation or upon some slight exertion, lasting from a few minutes to a few days. The very annoying sensation of a heart beating with excessive rapidity and strength is associated with a feeling of fear or terror, constriction of the chest, throbbing of the carotids, violent pulsation of the abdominal aorta, flushes of heat, increased blood-pressure in the head, and severe headaches. In rarer cases there may be profound vertiginous symptoms and even syncope; the pulse is very rapid—120 to 150 or more—but is strong, full, and regular. The normal heart sounds are exaggerated, and there are often functional murmurs. The patient suffers from mental anxiety and nervous irritability; her sleep is disturbed by disagreeable dreams, and she becomes unfit for active work. On the other hand, there are no symptoms of dyspnœa or cardiac asthma, no albuminuria, and very rarely indeed œdema of the feet or other symptoms of impeded circulation. The disorder is a comparatively harmless one, and is due to a reflex excitation of the extracardiac accelerator nerves. The condition is best treated with mild purgatives, light diet, active exercise, and cold sponge baths.

The second variety of cardiac disorder is "weak heart." This is much rarer, but much more serious. It occurs in women who in earlier years suffered from chlorosis or anæmia, or who in later years have lost great quantities of blood. The heart's action is rapid but weak. The pulse is small, feeble, compressible, and irregular. The heart sounds are obscured, and at times accompanied by systolic murmurs. The women are asthmatic, and often attacked by angina pectoris. Symptoms of impeded circulation are manifest, such as œdema of the hands and feet, and albuminuria. The hæmoglobin percentage is below the normal. The third group of cardiac disorders occurring during the climacterium is due to the accumulation of fat in the pericardium and sub-pericardiac connective tissue. It is the result of the general tendency which climacteric women have to the deposit of fat throughout the body, but chiefly in the mesentery and omentum. The symptoms are principally dyspnœa and palpitation, which supervene upon rapid walking, stair climbing, stooping, eating, etc. Real asthmatic difficulty and night attacks are seldom observed. However, in women who from their earlier years have shown a tendency to the excessive deposit of fat throughout the body, the condition becomes more serious, and occasions considerable distress. Dyspnœa and palpitation are caused by the slightest exertion, and cardiac asthma is not unfrequent. Venous stasis occurs at various points, and the patient suffers from hæmorrhoids and varicose veins of the legs. Œdema of the feet and lungs, and albuminuria, are not long in making their appearance at this stage of the disease. However, by careful treatment, judicious regulation of the diet, and observance of the laws of hygiene, the patient may be tided over the dangers of this period even though the symptoms be grave.—*The Birmingham Medical Review.*

Some Sources of Error in Sounding for Stone.—In a recent lecture Mr. Buckston Browne said his first proposition was, that in cases where the prostate was enlarged, stones are often missed when the bladder is examined, because the sound has not reached the bladder, but is arrested in the prostatic urethra. He illustrated this by several examples, and expressed an opinion that in many cases where the bladder was found contracted and the sound could not be turned, the real truth was that the sound had never entered the bladder. Next he proved that many stones were missed because the post-prostatic pouch is not explored. It was shown that in certain cases it was very difficult to explore this pouch by means of instruments passed in by the urethra, and that in certain other cases it was impossible to do so, and that in these rare cases the only way to thoroughly search was by means of suprapubic incision into the bladder. Several interesting and important cases from the author's personal experience were cited in illustration. The sound described was of solid burnished steel, with a round, smooth handle, a shaft ten inches long and equal to No. 7 of the English scale, ending in a smooth, broad, flat beak, exactly like the end of a broad, flat-bladed lithotrite. The author asserted that the beak of this instrument allowed it to ride easily over the bar at the neck of the bladder, and that it was not caught in one or other prostatic sinus as the end of the ordinary sound was so prone to be, and that when in the bladder it slipped more easily than an ordinary sound under a projecting prostatic middle lobe, and so enabled the surgeon to thoroughly search that favorite habitat of a stone—the post prostatic pouch.—*Medical Press and Circular.*

Cardiac Disease Consequent on Malarial Fevers.—The effects of malarial fevers are in many points obscure, and the damage done to the heart has never been made the subject of sufficiently long and accurate study. Clinical observers has often noticed soft systolic murmurs, sometimes apical but more frequently basic, and pathologists have found various traces of myocarditis and endocarditis; but the correspondence between the symptoms and the lesions has been imperfectly traced. Dr. G. Rauziet has spent much trouble on the point during a mild epidemic of malarial fever which lasted for rather more than a year. He gives detailed accounts of his observation of seventeen cases, in all of which a systolic murmur accompanied the fever, but which were none of them fatal. In all of these there was good reason to believe that there had been no previous cardiac disease, and the symptom constantly found was a systolic murmur culminating at the apex with an occasional reduplication of the second sound at the base, and no propagation of the systolic murmur along the large arteries except in one case. From this the inference is drawn that there was functional mitral incompetence; and there was not enough congestion of the spleen, liver, or lungs to make it probable that this was primarily due to dilatation from backward pressure in the circulation. The toxic effect of malarial poison in many ways is seen to be paralyzing. Dr. Rauziet is inclined to put forward the hypothesis that it acts on the heart through the nerves, to a degree lessening its complete contraction. He admits that it is hardly possible to determine whether the action is on the muscle directly, or by way of the nervous system. — *Revue de Médecine.*

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & Co., Nos. 56 and 58 Lafayette Place

New York, January 24, 1891.

THE INJECTION TREATMENT OF SYPHILIS.

THE injection of mercurial preparations either subcutaneously or into the muscles, about which so much has been written of late, especially in the German journals, has not as yet become a favorite method of treatment in this country. The number of mercurial salts available for this purpose continues to multiply, some observers giving preference to the soluble, others to the insoluble, preparations. Those which appear to be receiving most attention just now are hydrargyrum thymolicum or thymoloaceticum, alaninicum benzoatum, oxycyanatum, formamidatum, succinimidicum, and salicylicum. The salicylate has recently been reported upon favorably by several writers. Schadeck employs an emulsion made with mucilage of gum acacia and water, so that each dose will represent from five to seven and a half centigrammes. This he injects into the muscles of the gluteal region. The course consists of from eight to twelve injections, extending over from twenty to forty days.

Dr. Gold, of Odessa, also favors the salicylate. He claims to have treated nearly four hundred cases by subcutaneous injection of insoluble salts without producing a single abscess, and maintains that little pain attends the operation, and no poisonous effects follow.

Dr. Boer, of Berlin, has employed in thirty cases a one and a quarter per cent. solution of the oxycyanide. He makes a daily injection of the contents of a Pravaz syringe (one gramme) into the gluteal region or the back, and continues the treatment for thirty or forty days.

It appears that the antiseptic properties of the oxycyanide of mercury, compared with those of the bichloride, make a solution of from one to one and a half in a hundred of the former (according to different observers), equal one in a thousand of the latter. A one per cent. solution is recommended for hypodermic use in syphilis, and from six to eight such injections are considered a course. The benzoate is recommended in the following solution :

℞. Hg. benzoat.	0.30
Aq. dest.	40.
Sod. chl.	0.10

From fifteen to fifty injections are given, according to the severity of the case.

Of the thymol salt the following formula in syringeful dose (Pravaz) has been used with good results :

℞. Hydrarg. thymolo-acet	1.5
Muc. gummi arab	0.5
Aquæ dest.	20.

Löwenthal adds cocaine to prevent pain. Hydrargyrum succinimidicum has been used by Selenew in one per cent. solution in thirty-three cases. He finds the effects not very marked, but recommends it in mild syphilis, especially in women and children. Recurrences were noted in about eight and a half per cent. of cases treated. It will thus be seen that the physician who desires to employ injections in his practice, or who now and then encounters a case in which other methods of administering mercury are not practicable or expedient, has at his command a number of preparations from which to choose. The salicylate especially appears to be growing in favor, and doubtless the hypodermic syringe will come to be used more and more in this country in the exceptional and not easily controlled cases, rather than as a routine method superseding those now more in vogue.

LADIES AND ATHLETICS.

Exigua est virtus præstare silentia re fœminarum." There is no merit in keeping quiet about the ladies, and it ought to be announced with no uncertain voice that woman has gone into athletics. On January 15th the Ladies' Berkeley Athletic Club celebrated the first anniversary of its foundation. This delightful consummation was reached amid flowers, dumb-bells, music, horizontal bars, lovely gowns, pulleys, wands, health-lifts, and the innocuous ice-cream and bouillon. The joyful ceremony as much as publicly announced that Venus was turning away from Mars and horrid wars, and was setting her Cyprian cap for Apollo, god of health, music, and parlor gymnastics. And the world will approve the coquetry. The Ladies' Berkeley Athletic Club is, we are told, an organization of ladies of the smarter sort who have taken up physical culture, and have done it so successfully that within a year they have established a finely equipped club-house and gymnasium and secured a membership of several hundred. Such a success means a great deal, for it is but the beginning of a movement toward athletics for women which promises to spread throughout the country and eventually affect profoundly the physical status of American women. It has taken only ten years for modern athletics to become an essential part of manly culture and physical enjoyment. It may take longer to witness such a change among the gentler half of the race, but it is sure to come.

In 1854 Catherine Beecher wrote : "I shall be able to show that the majority of parents in this nation are systematically educating the rising generation to be feeble, deformed, homely, sickly, and miserable." "The children of this country are every year becoming less healthy and less good-looking." Those of us who, happily, married some of the children of that generation may not entirely agree with all that was said then ; but we are very sure that Miss Beecher, if alive in the coming decade, could not write as she did forty years ago.

The lady athlete is essentially a modern creation. The poetry, the history, or the philosophy of the past never

suggest such a thing. To the poet woman has been a lovely, languishing, anæmically phthisical creation who disappeared after marriage and maternity; to the historian she has been an uninteresting necessity to racial continuance and human progression; to the philosopher she has been a most bothersome item to the perfection of society and the solution of its hardest problems. No one has looked upon her as a possible athlete, as a creature of physical force and exuberant health, in whom supple limbs and strong muscles accompanied lovely form and happy temperament. "The soul of bliss is health," said the immortal Thomson—immortal if he said no more. For surely happiness is impossible to the sickly, the feeble, and the diseased.

We congratulate the Ladies' Athletic Club on its already attained success and its prospective path-breaking future. It is making history, and we trust, in later years, when the present athletic members are giving to their somewhat rheumatoid but still active limbs the rest, with flannels (*otium cum flaneha*), that belongs to advanced age, they will be able to look back with pride and satisfaction on the propaganda of feminine athleticism which began in the year of grace 1890.

PHYSICIANS' MUTUAL PROTECTIVE ASSOCIATIONS.

The project of organizing physicians' mutual protective associations, in order to prevent imposition by patients who will not pay their bills, seems attractive, but it is not without its disadvantages. We learn that the President of the Physicians' Protective Association of Sharpsburgh and Etna, Pa., has been sued for $10,000 damages. The complainant received a notice from the president of the association, stating that the physicians had organized themselves into an association to enable them to collect delinquent accounts. The plaintiff's account, it was added, was overdue, and unless he paid it or made satisfactory arrangements by July 1, 1890, his name would be placed on the list of delinquents, and medical attendance would be refused him. The plaintiff claims he was not indebted to the defendant at all, and therefore paid no attention to the bill received.

The case brings up some interesting legal questions. On the one hand, it seems just that physicians, like any other class of bread-winners, should have the right of refusing to do work for which they are not paid. On the other hand, the combining of individual physicians into a league for the purpose of preventing the non-paying patient from receiving any medical attendance, may be looked upon as something in the nature of a boycott. We believe, however, that a just interpretation of the facts would lead to a conclusion in favor of the physicians. For, as a matter of fact, the patient can get medical service as soon as he makes up his mind to pay for it. If he is unable to pay for it, he should go to the corporate medical charities of his town, or make an appeal to the humanity of the physician. He has no more right to expect medical service gratis than he has to expect his grocer's and butcher's supplies.

The case cited above, therefore, ought to turn simply upon the question whether the patient really received medical attendance.

AN INTERESTING REVIEW.

We have received a copy of the *Verulam Review*, a journal whose modest purpose is indicated on its title-page. "Πάντα δοκιμάζετε τὸ καλον κατέχετε," which, we take it, must mean "Prove all things, hold fast the good." The *Review* finds little difficulty in carrying out the first half of this injunction. It criticises Professor Michael Foster and modern physiology, showing the emptiness of the one and the inutility of the other; it points out the base motives which actuated the work of the Hyderabad Chloroform Commission, and discloses its unscientific and inconsequential results; it disposes of the late Dr. William Harvey in eight pages, and announces the withdrawal of the bacillus from the fields of scientific interest and investigation.

It gives us a new word, "scientistic," which to the Verulam mind is apparently a biting term for a wanton and wicked physiology. The *Verulam Review* gives us on its cover the interesting information that during the first three-quarters of the year 1890 there were four thousand three hundred and twenty-eight convictions for cruelty to animals in England and Wales. One was for beating and kicking a goose; one was for stoning a linnet; seven were for kicking pigs; four were for worrying cats, and thirteen were for overworking donkeys. There were none for chasing and killing foxes or hares.

The *Verulam Review* is a most refreshing publication; its contributions are not put under the ordinary restraints of reason, logic, and fact, or submitted to the soul-clogging restrictions which make our other "scientistic" exchanges so arid. The *Review* has about it that child like freshness and spontaneity, the breath of intellectual spring-time, which make it a most cheering and most amusing companion. We hope the editors will never destroy its charm and originality by striving to acquire knowledge: "Το καλον κατέχετε."

THE PROFESSIONS AND IDIOCY.

According to Mr. Galton, in the *Journal of Mental Science*, a study of the natality of the members of some of the largest scientific societies of London, shows that the legal profession presents the most eminent men and the fewest idiots. The medical profession comes next, and lastly the clergymen, who produce the smallest number of eminent men and the largest number of idiots and feeble-minded. The lawyers give origin to six times as many eminent men as the clergy. The clergy originate six times as many idiots as lawyers.

Such statistical deductions appear to us to be misleading and unscientific to the last degree. In the first place, the term "eminent" has a most elastic meaning. A lawyer, by reason of his profession, may achieve notoriety and "eminence," when intellectually he is far inferior to a physician who is comparatively obscure. The intellectual status of a man is not decided nowadays by his "eminence." As regards idiocy, those who are familiar with the causes of this condition know that the occupation of the father cannot possibly have more than a very slight influence. Nearly thirty per cent. of idiocy and imbecility is the result of accidents at the time of labor. Another considerable percentage is due to infective fevers and accidents after birth; still other cases

are due to fright or injury to the mother during pregnancy; while the direct hereditary influence comes quite as much from the mother as the father. Taken altogether, it must be concluded that the particular form of brain-work followed by the father can exercise but a minimum influence on the production of idiot or imbecile children. The implied conclusion, that ministerial labor has six times as great a tendency to produce idiots as legal labor, is sheer nonsense, the circulation of which we regret to see associated with the name of so ingenious and industrious a savant as Mr. Galton.

News of the Week.

Lay Comments on Koch.—*The Boston Medical and Surgical Journal* collects a number of clippings from the daily press containing interviews and comments on the Koch lymph. This is one of them: "Schenkelberger on Koch. The Doctor's a Genius and would Scorn False Colors. Tamed the Wild Bacillus, and is consequently no Chump—Dr. Schenkelberger was a School-fellow of the Famed Consumption Slugger, and Knows what he Talks about." A common fact noted is the surprising number of pupils and school-fellows that Koch has had. One paper puts the matter in a most impressive way to the commercial mind: "At present the whole scientific world, along with the common herd of mortals, is excited over the discovery of a specific for consumption by an eminent German physician, Dr. Koch. This doctor, during an experiment, discovered what he is pleased to term 'lymph,' a preparation which is said to be worth $1,300 a drop. An ounce vial of it, injected according to instructions, would be worth the surprising amount of $780,000. This 'lymph' is claimed to be a certain and sure cure for that dreaded of all diseases, consumption." The *Journal*: "Some cities are unwilling to be outdone by Koch himself, and we find the names of no less than eleven physicians whose claims to have discovered the same, or an equally good 'lymph,' have been considered worthy of publication, not including the host of announcements appearing in connection with advertisements."

Insanity in Criminal Cases.—A bill has been drafted and presented to the New York Legislature providing for a change in the law relating to insanity and crime. It provides that "whenever, upon the trial of any indictment for any capital offence, the jury shall acquit the defendant on the ground of insanity, such insanity shall be presumed to continue, and the court in which such acquittal shall be had shall make an order that the person so acquitted shall be confined in the State Lunatic Asylum for a period of not less than ten nor more than twenty years, and until it shall be proved, in the manner provided by law, that the defendant has been restored to sanity." The Governor is given pardoning power. The law as it now stands provides that when a jury acquits a prisoner on the ground of insanity "the court must thereupon, if the defendant be in custody, and they deem his discharge dangerous to the public peace or safety, order him to be committed to the State Lunatic Asylum until he becomes sane."

Two New Hypnotics, Trional and Tetronal, have recently been tested by Drs. Barth and Rumpel, of Hamburg. They proved to be of about equal value with sulphonal. In certain cases of nervous affections, however, where the last named failed, the two former had the desired effect, and therefore may find a field of usefulness in this direction. Injurious after-effects were not observed, and faintness, sleepiness, etc., were not complained of, as is sometimes the case with sulphonal. The dose of both trional and tetronal is between forty-five and sixty grains daily, given in single fifteen grain doses; the remedies are best administered early in the evening, finely powdered, and mixed with about six ounces of fluid.

The Village Doctor.—In *All The Year Round*, 1883, there is a description of the Shillingbury doctor, Mr. Frederick Goldingham, M.R.C.S. We fancy we could pick out a dozen of such doctors who are the friends, companions, advisers, of village populations, "who pass their lives with patience and cheerfulness, listening to the garrulous grumbling, the discontent—ay, to the ingratitude sometimes—of a set of uncouth peasants and narrow-minded country tradesmen." The sympathetic writer says: "Honors and decorations the doctor did not want, but had he hungered after them he would have found they were not meant for such men as himself. These we keep for successful schemers in what is called the world of politics; for victors over hordes of half-naked, half-armed savages; and for the men who can pile up the largest heap of wealth by methods which we discreetly disdain to investigate. Our age is one which lets such noble deeds sink unmarked out of remembrance."—*Providence Medical Journal.*

A Conversation Partly Overheard at any Time between Two Physicians.—*First Doctor:* "—— Koch —— lupus —— lymph ——injection —— phthisis —— wonderful —— Koch." *Second Doctor:* "—— Extraordinary —— Koch —— lymph —— reaction —— phthisis —— Koch —— lupus —— remarkable —— bacilli —— Koch —— good-by."

The Surgical Section of the Academy of Medicine.—Dr. William T. Bull has been elected Chairman of the Section for the ensuing year. This is one of the most active of the several divisions of the Academy. The large attendance at the meetings attests the excellence of the papers presented.

Few Fractures of Patella in Philadelphia.—Two well-known surgeons, one from Philadelphia, the other from New York, were recently talking on their surgical work, when the Philadelphian said: "How happens it that you have so many fractures of the patella in New York? You are discussing the subject all of the time. I have had a fairly extensive surgical experience, yet have seen very few cases of this lesion." The New Yorker replied: "Your people in Philadelphia are too slow; if they would hurry a little, now and then, they might slip, occasionally, and break a patella."

Association Members in Illinois.—In connection with the question of removing the *Journal of the American Medical Association* to Washington, it is interesting to learn that Chicago and Illinois, with their two thousand physicians, contribute only five hundred members to the Association.

New York State Medical Association, Fifth District Branch, Brooklyn.—The Seventh Annual Meeting will be held in Brooklyn on Tuesday, May 26, 1891. All Fellows desiring to read papers will please notify the Secretary, E. H. Squibb, M.D., Brooklyn.

Alumni Association of the Woman's Hospital in the State of New York.—The Seventh Annual Meeting was held January 19, 1891. At the morning session, at ten o'clock, a new operation for the cure of anteflexion was performed at the hospital, by E. C. Dudley, M.D.; also a new method of suturing the perineum, by Clement Cleveland, M.D. At 1.30 P.M., luncheon was served by invitation of the President of the Association, Dr. Clement Cleveland, at the Academy of Medicine. During the afternoon session, at three o'clock, at the Academy of Medicine, the following was the order of exercises: 1. An Original Poem, by William H. Birckhead, M.D. 2. "An Undescribed Disease—Posterior Rectocele," by George E. Abbott, M.D. 3. "Uterine Hemorrhage of Obscure Origin," by H. C. Coe, M.D. 4. "Sterility in the Multipara," by J. D. Emmet, M.D. 5. "The Origin of Flap splitting in Vaginal Surgery," by A. H. Buckmaster, M.D. 6. "Recto-abdominal Fistula following Laparotomy, treated satisfactorily by Improved Double-current Irrigation," by Nathan G. Bozeman, M.D. 7. "Our Operating-rooms and Methods of Preparing Patients," by Le Roy Broun, M.D.

A Lymph Specialist.—The following advertisement was cut from the columns of one of the leading daily newspapers of Germany: "Dr. Koch's Cure. A lady, a friend of the great Berlin doctor, experienced with tuberculosis, will take four ladies to Berlin. Special advantages secured. Nurse attends. Doctors kindly notice."

A New Remedy for Constipation.—Dr. Platau, of Berlin, suggests a remedy for inveterate constipation, which, if it proves as satisfactory in other hands as it is claimed to have been in his own, will become a formidable rival of the popular treatment *à la glycerine*. It consists in the introduction of a pinch of powdered boracic acid into the rectum, preferably by insufflation, and the results are declared to be excellent, even in severe cases in which mechanical measures had signally failed to afford relief. The query rises, Who does the insufflation?

Projected Removal of the Journal of the American Medical Association to Washington.—At the recent meeting of the Board of Trustees in Washington, to consider this subject, many were in favor of immediate removal, while others deemed it a matter of such moment as to require careful consideration, and that the views of the entire Association should be had. The responsibility for such action, therefore, will devolve upon the membership of the Association as a whole at the next annual meeting.

The Mortality of New York City in 1890.—The total deaths in the city of New York during the year just closed were 40,230, a slight increase over the total of 1889, which was 39,583, as well as that of 1888, which was 40,175. The population being estimated at 1,631,230, the rate of mortality is found to be 24.6 to the thousand, as against 25.1 in 1889, when the population was held to be 1,580,000. A most marked falling off in scarlet fever is recorded, the deaths in 1890 being 403, in 1889, 1,239, the number of cases being 2,893 and 8,730, respectively. In diphtheria, also, there was a decline, the deaths in 1890 being 1,256, in 1889 1,685; the cases, 4,142 and 6,289, respectively. Typhoid fever caused 350 deaths, a decrease of 47; the number of cases was 1,079, a decrease of 296. Measles caused 724 deaths, an increase of 254; the number of cases was 8,972, an increase of 2,635. Whooping-cough showed a falling off—namely, 486 as compared with 647 deaths. The deaths by malarial causes were only 174, as compared with 229 in 1889. Small-pox caused two deaths, as against one in 1889. The deaths by bronchitis and pneumonia numbered 1,982 and 4,950, as compared with 1,792 and 4,015 in 1889. Consumption is charged with the heaviest item of mortality, 5,468, as against 5,163 in the previous year. The reported births came quite close to the deaths, being 39,250, a decided increase beyond the total of 37,521 in 1889. The marriages numbered 14,992, while in 1889 they were 14,400.

The Penis Percussion Reflex is a symptom confidently recommended to clinicians by Dr. C. H. Hughes, as of value in diagnosis and prognosis (*Scientist and Neurologist*). "If," says the doctor, "you take a perfectly healthy individual, whose spinal cord is entirely normal, especially in its genito-spinal centre, and place him on a couch without head-rest, supine, and nude about the loins, and make the sheath of the penis tense by clasping the foreskin with the left index-finger and thumb at about the place of the frænum, and pulling it firmly toward the umbilicus, placing the middle, ring, and little finger low down upon the dorsum of the virile organ, for perceptive purposes, and then sharply percuss the dorsum or sides of the penis, near the perineal extremity, a quick and very sensible reflex motor response or retraction of the bulbo-cavernous portion will be felt to result from this sudden percussional impression, like that which follows, though less pronounced, in the testicles, after sensory irritation of the inner aspect of the thighs, and known as the cremasteric reflex." Dr. Hughes thinks the presence or absence of the reflex indicates to some extent the virility of the individual.

Disadvantages of Large Hospitals.—Sir Morell Mackenzie objects to large hospitals, on the ground that they are an unscientific anachronism; the aggregation of the sick in large numbers being as much out of place as intramural interment. The added virulence of germs from the bodies of numerous cases is to be considered more dangerous than that of those emanating from dead bodies. Another objection to the large hospital is that the relief given by it is in a sense indiscriminate. The out-patient department of hospitals is the greatest pauperizing agency now existent. From this comes the third objection, the cruel hardships entailed upon the medical men in the neighborhood. He considers the special hospital in a large degree free from these and other objections, and favors the exaction of a small fee from dispensary patients.

Room for Another Medical Journal.—The *North Carolina Medical Journal* has made a discovery. It is that there is room for another medical journal. This should be devoted entirely to criticism and modelled after *The Dial* (save the mark!) or the *Literary World*.

THE LYMPH TREATMENT IN NEW YORK.

CASES AT THE ST. JOSEPH'S ORPHAN ASYLUM.

Service of Dr. Edmund Charles Wendt.

General Remarks.—No new cases have received inoculations during the past week. Thirteen of the old cases have been reinoculated, but in no case has the dose exceeded 0.008 gm. Some of the children still react rather violently, but in most instances the subjective symptoms are less severe, and the rise in temperature less marked. In order to ascertain the range of temperature when not influenced by lymph, the inoculations were interrupted for three successive days. In every instance (excepting two subnormal temperatures) the diurnal temperatures remained absolutely normal. Meantime, the children take cod-liver oil, are supplied with an abundance of good food, and receive such further symptomatic and adjuvant treatment as the exigencies of the individual cases appear to call for.

It is worthy of being recorded that all cases regarded merely as "suspicious," and even those with only scrofulous manifestations, have "reacted" to the lymph treatment. This naturally suggests the query, whether scrofula is not an early symptom of actual, rather than potential, tuberculosis.

One thing has been made quite evident to me, namely, that even though we are injecting a powerful poison, the general condition of strumous children improves under lymph treatment. There is much less anæmia at present. The extreme pallor of some of the cases is no longer perceptible. A few, indeed, are beginning to have an almost healthy look. The appetite suffers during the acme of the febrile reaction, but this passed, a marked change for the better has ensued. Children that had to be coaxed to eat, now demand food between meals. I cannot believe that a psychical element enters into this apparent amelioration, for the children only realize that something is "stuck into them," which hurts and makes them feel sick enough to go to bed. I may remark in this connection that I have given up using the abdomen as a place for injection. The sight of the syringe provokes resistance and struggling on the part of many children. Injections between the shoulder-blades seem to be less painful, and the child is not terrorized by seeing the syringe.

A surprising phenomenon to me has been the *va et vient* of auscultatory sounds. Some children quickly developed thoracic sounds simulating broncho-pneumonic foci scattered over a wide area. Yet they would be almost free from râles in from thirty-six to forty-eight hours. But under renewed inoculations a return of the râles was observed I shall not attempt here to explain these shifting signs, and merely wish to call attention to their occurrence.

Another point that has struck me in a peculiar manner is the absence of expectoration in children old enough to "raise phlegm," who had mucous râles not distinguishable from the bronchitic variety.

Without wishing to generalize, it appears to me that, while Koch has told us the origin of his lymph, we have yet much to learn with regard to the intimate nature of its surprising effects on the human body. Whatever the final outcome of the lymph treatment may be from a curative point of view, the reaction doctrine, if proven to be reliable, must give us a test of far greater importance than all the combined methods of physical and chemical exploration hitherto known. By its aid we should be able to give certain interpretation to those variable premonitory symptoms of phthisis that, with the means now at our command, permit no positive diagnosis. By its aid we would begin active treatment (not necessarily with lymph), even before the microscope revealed to us, by bacilli-laden sputum, that the danger-point was near.

Particular references to single cases are omitted in this week's report.

CASES AT ST. FRANCIS HOSPITAL.

Service of Dr. George F. Shrady.

(Reported by Arthur P. Coll, M.D., House Surgeon.)

During the past month thirty patients have been treated for tuberculosis with the Koch lymph. Three of these were tuberculous joint cases, two of knee, and one of wrist; two were of tuberculous glands of the neck, two were of scrofulous ulceration with tubercular caries, the remainder having phthisis pulmonalis. Of the latter there were three control cases, which failing to react were discharged. In all the others the reactions occurred according to rule, most of them showing local reaction in the shape of increased râles and expectoration. In two cases of incipient phthisis the expectoration markedly diminished, and in one of them the physical signs also disappeared, the patient believing himself well.

One of the cases of tubercular knee-joint progressed in rather a remarkable way. At the commencement of treatment by inoculation the joint was tender on pressure and movement, and there was considerable contraction of the flexor muscles of the thigh. These symptoms gradually disappeared after repeated inoculations with reactions, so that at the end of a month the patient was able to straighten the limb and walk about the ward with a slight limp. The pyriform swelling of the parts remained. The patient, protesting that he was well, left the hospital to return to his home in Germany. The case appeared, according to the usual tests, to be one of the ordinary tubercular joint, and the facts are stated without any attempt to explain an apparent relation of cause and effect.

The second case of knee-joint disease, still under treatment, has shown a curious improvement. The patient is a female who had been treated for tubercular disease of the part for a period of many weeks, the limb being confined in plaster of Paris and other appliances during most of the time. Associated with the joint lesion was a deposit in the lung and the expectoration of tubercle bacilli. Reactions occurred after each inoculation. The patient is now able to walk around the ward without pain and without crutches. A wrist-joint similarly affected showed similar improvement.

The cases of phthisis are progressing in the usual way, none of them under treatment as yet ceasing to show the reactions. All express themselves as feeling better, but no perceptible increase of weight is noticed, although the majority of them have increased appetites.

The frequency of inoculations has been governed by the effects produced, care being taken to differentiate between the usual hectic fever and the increased temperature of the reactions by allowing a sufficient interval to elapse for a return of normal temperature. In one or two cases with cavities it has been impossible to note more than an increase of the hectic following the inoculations. These are the simple facts in the cases reported, without any attempt at theory or explanation.

Boracic Acid in the Treatment of Tuberculosis.—Dr. Gaucher, writing in the *Bulletin Médical*, speaks highly of the action of boracic acid in cases of pulmonary tuberculosis. In cases so treated the author notes a marked diminution in the amount of expectoration, which also becomes more fluid and less purulent. In a number of cases submitted to this treatment, and kept under observation for five years, there had been no progress in the pulmonary lesions, and the general condition of the patients had improved. At first he gave but fifteen grains of the acid a day, but of late he had gradually increased this dose to one drachm daily, with apparent benefit. The drug possesses the advantage of being tasteless, and produces no gastric irritation. In certain cases it seemed to exert a beneficial effect upon the diarrhœa.

Society Reports.

THE PRACTITIONERS' SOCIETY OF NEW YORK.

Stated Meeting, November 21, 1890.

BEVERLEY ROBINSON, M.D., PRESIDENT PRO TEM.

The Finger as a Medium for Transplanting Skin Flaps.—DR. GEORGE F. SHRADY read a paper in which was described a new method of transplanting flaps from one part of the body to the other by using the finger as a medium. The case on which the operation was demonstrated was that of a young woman whose cheek was restored by that means. The operation consisted in placing the arms in an easily folded position over the epigastrium, so that the palms rested upon the corresponding elbows anteriorly. A quadrilateral flap was then dissected from the lower and anterior portion of the arm, so that the free edge of the flap could adapt itself to the radial margin of the forefinger in position below it. This free edge was sewed to the radial side of the forefinger, the skin of which latter had been previously split for the purpose. The forearms were then confined in plaster of Paris until union between the arm-flap and finger had taken place. The arm-flap was then detached at its base, leaving the entire flap still attached to the finger. The hand was then placed against the face, and the free end of the finger-flap sewed in position to the upper margin of the cheek gap. Immobility in this position was also maintained by plaster of Paris until union between finger-flap and cheek was complete, when the finger was liberated, leaving the original arm-flap as the new cheek.

This new cheek throve well throughout its entire extent for a period of two months, at the end of which time, its lower portion being necessarily disturbed by an operation for a sliding flap to remedy neighboring defects, a slough of its lower and superficial portion occurred, fortunately leaving, permanently, enough of the original flap to prove the practical utility of the measure.

In connection with these operations upon the patient, Dr. Shrady described others which he had previously performed on her for the purpose of closing up the gap in her cheek. Twice he converted her mouth, including upper and lower lips, into a quadrilateral sliding flap, the free edge of which was sewed to the outer border of the cheek gap, thus temporarily closing the latter. In each instance the deflected mouth was properly righted by closing it at one corner and enlarging it at the other, thus making its median line correspond with that of the face. These efforts were only partially successful, owing to the difficulty of obtaining firm union between sound skin and a dense bed of cicatricial tissue in the cheek proper.

To remedy other defects various other operations were performed, in all amounting to twenty-two, the patient confidingly following the operator from one hospital to another during a period of three years. At the end the patient was left with a reconstructed face, from which, at the end of four years, most of the scars had faded away. The new cheek, although somewhat thinner than the one on the opposite side, is reasonably supple, and obligingly wrinkles to balance the smile of satisfaction on the other side of her face whenever the results of the operation are referred to.

Dr. Shrady believed that this method could be applied to the transplantation of flaps to and from even distant parts of the body within reach of the hand.

At the close of his paper Dr. Shrady remarked that the last operation was performed on this patient four years ago. Before, she wore a veil and would go out only after dark. Since the series of operations her appearance had improved very markedly, although there was still slight deformity at the angle of the mouth, which she desired him to remedy by a further operation. Thinking it was best to let well enough alone, he had declined to do this.

He further added that the patient developed a marked tolerance for ether after several operations had been performed, and would require an unusual length of time to go under the influence of the anæsthetic. He then made use of Nussbaum's method of hypodermic injection of morphine before ether was administered.

DR. C. L. DANA inquired whether after the operations there was any wrong reference of sensory impressions.

DR. SHRADY replied in the negative. In answer to a question from Dr. Bull he also remarked that the method adopted in this case of transferring the mouth was new to him; at least he did not know that it had ever been done before. It involved a good deal of hemorrhage, but was the only available way at that stage of covering the large space left by a slough in the cheek.

DR. W. T. BULL thought the author had described a form of flap transplantation which was likely to offer advantages over any hitherto in vogue.

Regarding Anæsthetics.—Dr. Bull could endorse what the author had said with regard to mixed narcosis. He had never employed a combination of chloroform by inhalation and morphine hypodermically. The combination had consisted of ether by inhalation and morphine by injection, the latter administered after, not before, ether inhalation. The patient being fully anæsthetized by the ether, an injection of from two to ten minims of Magendie's solution would prove of great value in plastic operations about the face. He had had no experience in covering so large a defect as that described in the paper, and he knew of no other method by which as marked success could have been obtained.

DR. J. D. BRYANT said that he, like those who had already spoken, had been able to continue an operation much longer after bringing the patient under the influence of ether, by then adding a hypodermic injection of five or seven drops of Magendie's solution. Less frequently he made the injection at the beginning of ether inhalation. He asked Dr. Shrady whether he had also employed whiskey.

DR. SHRADY replied, not as a rule, for he thought it had a tendency to disturb the stomach when administered by the mouth. It was of advantage hypodermically when the patient was very weak.

DR. SAMUEL SEXTON said that he had used a mixture which had been mentioned in a discussion on anæsthetics some years ago. It consisted of one part by measure of alcohol, two of chloroform, and three of ether. He had employed it in his last twenty or twenty-five operations on the ear, and it had proved quite satisfactory; the patients had become anæsthetized readily and came from under the influence very nicely. He could recall but one case in which there was any vomiting. Usually not over half an ounce was inhaled before the patient came under the influence.

Congenital Median Furrow of the Nose.—DR. W. T. BULL presented photographs of a peculiar case of congenital median furrow in the tip of the nose, existing in a prepossessing young lady, who requested an operation for cosmetic effects. Two sittings were required, the procedure adopted consisting in dissecting out the furrow and bringing the edges of the wound together. The result had been satisfactory. Replying to a question by Dr. Shrady, he said there was no harelip or other deformity.

Salivary Calculus.—Dr Bull further presented a salivary calculus, which he said was the first he had ever removed. The patient, a man about thirty years of age, had an attack of sore throat and cold in the head, about six years ago, which was accompanied by some swelling in the submaxillary region. Every ten days or so since that date he had observed a little swelling beneath the submaxillary gland, which he would relieve by pressure on the neck outside, causing a quantity of mucus to discharge into the mouth. A few days ago he caught cold, there was acute swelling in the gland, apparently the submaxillary, which nearly subsided by the end of a week under hot

fomentations. When Dr. Bull examined him he detected a hard body at the floor of the mouth, and with the aid of a little cocaine anæsthesia made an incision on the line of Wharton's duct, and extracted a hard calculus. It had not yet been examined as to its chemical composition.

Dr. Shrady said he had met with a similar case. The gentleman had come on from Pennsylvania to have his tongue extirpated for supposed cancer. On examination Dr. Shrady found a tumor of considerable size under the tongue, and on introducing an exploring needle struck something hard. While the patient was yet sitting in his chair, he made an incision and removed a salivary calculus nearly as large as the end of a man's thumb. It had interfered somewhat with deglutition and speech.

One Disadvantage of Litholaplaxy.—Dr. Bull also presented the fragments of a large vesical calculus in a case which illustrated one of the disadvantages of litholaplaxy. The fragments presented weighed altogether seven hundred and twenty-five grains, and were composed of phosphates. A year before, the man had been operated upon by litholaplaxy by one of the best known specialists in the city, the stone which was crushed being so large as almost to fill the bladder. The patient, however, began to have bladder symptoms again about two months after the first operation. He had an enlarged prostate, and the third lobe was removed by supra pubic operation at the time when the stone was also extracted. Notwithstanding phosphatic stones were known to form sometimes very rapidly, Dr. Bull confessed to some astonishment on finding so large a one in this case, in which litholaplaxy had been performed only a year before. He added that the removal of the prostate had not overcome the symptoms of obstruction. During the same week that he had operated upon this patient he had encountered another one, who had been operated upon by litholaplaxy three months before, by the same surgeon; yet, at this early period he again had two new vesical calculi—unless, indeed, they were old ones which had been left. The two cases served to strengthen the opinion which he had already formed, that litholaplaxy was a somewhat unsatisfactory operation, because one could not always be sure of having extracted all the calculus material. It was particularly undesirable in old people who had obstructive disease of the prostate, and were obliged to use a catheter.

Dr. Bryant endorsed the position taken by Dr. Bull by citing the following case: A man, forty-seven years of age, had stone in the bladder, for which he operated five days ago. He also had enlargement of the prostate, and had for many years suffered from renal calculi, but believed that all had passed up to a certain date, when his prostatic symptoms also developed. His physician also recognized the fact that, for about ten years, his patient had been suffering from enlargement of the prostate. When Dr. Bryant selected supra-pubic cystotomy in preference to litholaplaxy in this case, it was partly from the standpoint advanced by Dr. Bull. Believing that litholaplaxy was quite likely to be attended by inability to remove all the fragments, especially on account of enlargement of the prostate, and believing that the nucleus of the calculus had probably been retained only since the development of prostatic obstruction, he chose the supra-pubic operation. The operation was attended by no difficulty; the highest temperature reached was on the next day, 100.8° F. The man having considerable adipose, the opening was rather extensive, but was healing kindly, it now being the fifth day. The objection to litholaplaxy which Dr. Bull had advanced was, he thought, a sound one, and had actuated him in this case, but he did not understand that Dr. Bull did not believe in litholaplaxy al all.

Dr. Bull said he had been understood correctly by Dr. Bryant.

Dr. Beverley Robinson asked whether one of his patients, aged twenty-five, on whom he could not pass an instrument of fair size, might have enlargement of the prostate without disease.

Dr Bryant said he had seen a man, aged thirty-five, have marked enlargement of the prostate, and there were records of enlargement at a much younger age, but they were very rare.

To Preserve the Elasticity of the Lungs—Dr. J. West Roosevelt presented a specimen of prepared lungs, which he had exhibited at the recent International Medical Congress, where it had excited a good deal of interest as something new. The method and the result had impressed him as something useful rather than as new. The lung had been prepared a year ago, and had retained its physical characteristics up to the present, as could be demonstrated by inflating it with a rubber bulb. The objection to filling the lung with glycerine and carbolic acid was that it became stiffened and disagreeable to handle, and, moreover, was apt to shrink in places. It therefore occurred to him to inflate the lung, fill it with Flemming's fixing solution, then saturate with glycerine and carbolic acid to get rid of everything, and displace these with an oil which contained some of one of the essential oils. The specimen had remained elastic a year, and by continuous inflation with the rubber bulb enabled one to study the vesicular murmur.

Dr. Roosevelt also exhibited some drawings of the terminals of the bronchi.

A Set of Electrodes for Use in Rhinology and Laryngology.—Dr. Robinson exhibited a case of electrodes which he had devised for use in diseases of the nose and throat. With them was a universal handle. They were made by Stemmer. He expressed incidentally his belief that many cases of so-called globus hystericus were due to a third tonsil. The question of removal of the tonsil arising, he said the operation was more or less bloody, and while not considered dangerous, he preferred to avoid the necessity for it where he could by use of the electrodes.

THE NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, November 12, 1890.

J. West Roosevelt, M.D., President, in the Chair.

Cerebellar Hemorrhage with Complete Paralysis on the same Side as the Lesion.—Dr. J. S. Thacher presented such a specimen, showing a hemorrhage of considerable size in the left cerebellar hemisphere, and a minute lesion in the opposite hemisphere. The patient had suddenly become comatose, and on his recovery a few hours later, was found to have paralysis of the left extremities. After about one week without any especial change in the symptoms, he again became comatose, and died. References in medical literature to the occurrence of hemiplegia upon the same side as the lesion in these cases were very vague. Gowers makes the obscure statement, that paralysis occurs on the same side, or upon the opposite side, according as the pressure is upon the pons or upon the medulla. Probably the correct inference is that, if the pressure be upon the pons, the paralysis is on the same side as the lesion. Dr. Thacher thought that an explanation might be found in the fact that direct pressure was made by a soft and diffused body, while the counter-pressure upon the beginning of the crus cerebri, on the opposite side, was by the sharp, firm anterior edge of the opening of the tentorium cerebelli. This latter might have a greater effect in producing a lesion of the pyramidal tract.

Dr. H. P. Loomis presented the lower portion of a tibia in which the process of necrosis had resulted in a complete and extensive separation of the old bone, and the development of new bone from the inner layers of the periosteum. The specimen was taken from a man, about twenty-nine years of age, who had been in perfect health up to about two months previous, when after a day's work upon his knees, was seized with severe pain in

one knee. After one week, pus was evacuated from an opening made into the knee-joint, and very soon the lower portion of the leg was riddled with sinuses. Amputation at the knee was performed. The specimen showed that recovery would have been impossible without operative interference.

Dr. Loomis also presented specimens illustrating

Primary Tuberculosis of the Genito-urinary Tract.—They were removed from a woman about forty-five years of age, whose history was unknown. There was considerable pus in the pelves of the kidneys, and some concretions. The bladder showed, in addition to cystitis and thickening of its walls, the usual appearance of tuberculosis of this organ. The cervix and body of the uterus and the vagina showed small ulcerations, which were in all probability tubercular, although stained sections had not shown the presence of tubercle bacilli. The other viscera were normal with the exception of the heart, which was sufficiently diseased to account for the patient's death.

The PRESIDENT remarked that he had seen apparent tuberculosis of the uterus, Fallopian tubes, and both kidneys, without any involvement of the bladder. Tubercular disease of the testicle and kidney was also common enough; yet the course followed by the tubercle bacilli in gaining entrance to the genito urinary tract was not known.

DR. L. EMMET HOLT presented specimens from a case of tuberculosis in a child four and a half years of age. The family history was negative so far as tuberculosis was concerned. One year ago, the first signs of Pott's disease in the lower cervical region were noticed, and deformity had been present for about two months. Five months ago, enlargement of the cervical and axillary glands was first noticed. During the past summer, with the exception of frequent headache, she had been in fair condition up to two weeks before death. Then she was suddenly seized with vomiting, the headache became more severe, and there was constipation with moderate fever.

Nine days later, she was admitted to the hospital. At this time she was very drowsy, but could be partly roused; slight opisthotonos; cervical and axillary lymphatics enlarged to the size of a hen's egg; and nodular tumors about the size of an almond could be felt along the spine through the abdominal wall. There were localized fine râles at the right apex of the lung; spleen slightly enlarged. During the next five days, the temperature ranged from 100° to 101°; there was occasional vomiting, constipation, steadily increasing drowsiness, and, during the last two days, irregular pulse, irregular respiration, and convulsions, first affecting the left side of the face, then both upper extremities. There was also almost complete left hemiplegia. Pupils were dilated, and there was convergent strabismus. Abdomen was natural until the last twelve hours, when it became greatly distended. Death occurred in convulsions with a temperature of 104.5° F.

At the autopsy, the brain was found slightly congested; the pia closely studded with miliary tubercles at the base, along the Sylvian fissures, and particularly over the choroid plexus. Tubercles were also scattered over the convexity, but very little pus or fibrin was to be seen anywhere. The ventricles were not distended. The sinuses contained dark fluid blood. The cord was not examined. The bronchial glands and all the mediastinal glands were all very greatly enlarged, forming a cluster about the trachea and large bronchi nearly as large as the fist, individual glands being from one-half to one and a half inch in diameter, and cheesy on section. At the right apex, a small area of consolidation, studded with tubercles the lung rather firmly adherent over this area. In other portions of the lungs there were scattered miliary tubercles; no areas of consolidation, and no pleurisy. The heart was normal. The liver was fatty and somewhat adherent to the diaphragm, and a few tubercles were found on its surface and in its substance. The spleen was increased to about twice its normal size, and showed tubercles on its surface only. The kidneys were soft and slightly enlarged, showing throughout a moderate amount of parenchymatous nephritis, and in one, a tubercular nodule about the size of a pea, which had broken down. The stomach contained a tarry mucus, and showed many minute follicular ulcers, about the size of a pin's head. A few small tuberculous ulcers were found near the ileo-cæcal valve. About the cæcum, vermiform, and sigmoid flexure was a localized plastic peritonitis. The mesenteric and retro-peritoneal glands were everywhere enlarged and cheesy, the average size being one to one and a half inch. The case was one of general tuberculosis involving chiefly the lymphatic system, and followed by a tubercular meningitis.

Dr. Holt also presented specimens from a child aged ten months, who had been admitted to hospital four days before death with a history of marasmus since birth. Her weight was six and three-quarter pounds, and during her stay in the hospital there was no temperature, cough, or evidence of any local disease. Physical examination showed the body greatly emaciated, and at the left apex was a small area of consolidation giving dulness, bronchial breathing, and fine râles. The lungs elsewhere, together with the other organs of the body, were normal. The child died suddenly, having appeared two hours before death as well as at any time for the past four days. At the autopsy, the examination of the brain and heart was negative. The lungs showed a consolidation involving the greater part of the left upper lobe, and on section the lung showed numerous small cavities communicating with each other. A few large cheesy nodules had not yet broken down. The pleura over the lung was normal. Throughout the lower lobe of the left lung were small reddish nodules as large as a small pea, the centres evidently of infection by aspiration from the disease in the upper lobe. Miliary tubercles were scattered throughout both lungs. The bronchial glands upon the left side were cheesy, but not broken. There were no ulcers in the small intestine, but a partly cicatrized ulcer was found in the rectum, about four inches from the anus. A few cheesy mesenteric glands occupied the right iliac fossa. Scattered tubercles were seen upon the surface of the liver, but the spleen only showed two or three on its surface. The kidneys and peritoneum were normal.

THE PRESIDENT exhibited a metallic cast showing the ramifications of the bronchi. It was of interest in connection with Dr. Holt's second case, as it showed how easily the tubercular material could be distributed through the lung by aspiration.

The Society then went into executive session.

The Vienna Professor as a Humanitarian—"I assure you this hospital is for the benefit of science, not for the sick. It will be many, many years before patients can be handled in America as they are here, and I doubt very capitally if we will ever live to see the day. Why, when one of these professors says an operation must be done, the patients never think of opening their mouths: they are led up just like sheep, as meek as Moses, trembling, scared half out of their wits, yet they don't open their mouths at anything. The patients will bear any sort of pain; why, I have seen them amputate the thumb of a six months' old babe without any form of an anæsthetic; scrape away the whole of a man's nose with a curette, and then with the actual cautery completely cauterize; and when an American would ask the professor why he didn't cocainize the part or anæsthetize the patient, he would say in the presence of the patient that he didn't have time to anæsthetize him, and it costs too much to buy the cocaine, also saying that it would be best to use something to alleviate the pain in private practice; just as if it didn't hurt the poor suffering hospital patients."—*Vienna Correspondence of Dixie Doctor.*

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

DR. CHAMPNEYS'S HARVEIAN LECTURES—BONE IN THE BLADDER—KOCH'S TREATMENT—A NEW UTOPIA—THE ADDENDUM TO THE PHARMACOPŒIA—NEW-YEAR'S HONORS FOR MEDICAL MEN—SIR RICHARD QUAIN, BART.—SIR GEORGE HUMPHRY—MR. WALLACE AND SURGEON PARKE ON THE VALUE OF VACCINATION.

London, December 6, 1890.

In Dr. Champneys's second Harveian Lecture he discussed the subject of "Membranous Dysmenorrhœa." Pathological study, he said, had not settled its nature, and its clinical study had been too much neglected. He believed that it threw considerable light on spasmodic dysmenorrhœa. Dr. Champneys described the membrane which was passed in such cases, and discussed the method proposed by Wyder of diagnosing it from membranes which were the products of conception by means of the large cells said to be present in the decidua but absent from dysmenorrhœal membranes. A typical case was then described, and it was pointed out that it was essentially a primary affection. The flow was profuse—at any rate, not scanty—and the pain was not relieved by the flow, though it was relieved by the passage of the membrane. Such patients were usually sterile and menstruation was generally painful until it ceased at the menopause. The disorder sometimes ran in families. The lecturer regarded the pain as a "colic" intensified, being set up by the passage of the membrane over a specially sensitive part. He remarked that in cases of membranous dysmenorrhœa we must distinguish the membrane from fibrin, blood-clot, coagulated mucus, casts of the vagina or bladder, exfoliation of uterine mucous membrane (in cases of phosphorus poisoning and cholera), foreign bodies, and, lastly, from products of conception. The latter included: (*a*) Decidua in cases of extra-uterine pregnancy, (*b*) decidua in cases of double uterus, (*c*) abortions.

The third and concluding lecture (delivered on December 4th) was devoted to the consideration of "Spasmodic Dysmenorrhœa." Dr. Champneys claimed that this was the only real dysmenorrhœa. The following terms were employed in its nomenclature: Spasmodic, neuralgic, obstructive, mechanical. This form was essentially primary. The pain typically preceded the flow and was relieved by it; it was situated in the womb, and might, with intermissions and variations in intensity, last from twenty-four to forty-eight hours. The flow was scanty in such cases. As a rule, the affection got worse with time. The "mechanical theory" of this form assumed that it might be due to flexion, to stenosis, or to chronic congestion produced by flexion. With regard to flexion we had the evidence afforded by the difficulty of passing the sound in such cases, the evidence of specimens of flexed uteri, and the illustration of bent tubes. In support of stenosis being an efficient cause we had the cases of congenital stenosis with "pinhole os;" Vedeler's statistics on this point were quoted, together with some cases under the lecturer's own observation. We had also to consider the effects of swelling of mucous membrane, the presence of fibroids or polypi, contortion of the cervical canal from hypertrophy, and increased flow of blood. With respect to flexion being set up by chronic congestion of the uterine organs, we had to consider the circulation in the uterus. Were flexions essentially associated with dysmenorrhœa? The statistics of Vedeler and Herman on this point were given. Arguments in favor of such association had been derived from the results of some forms of treatment, viz., postural treatment, treatment by means of vaginal or stem pessaries, dilatation, and incision.

At the last meeting of the Clinical Society an interesting case was brought forward by Mr. Buckston Browne, viz., one in which he had removed several fragments of bone from the bladder of a male patient in whom disease of the spine had existed for several years. The pieces of bone were shown to the Society and the history of the patient related. Mr. Browne remarked that bone might obtain entrance into the bladder by mechanical violence, or by the slower processes of disease. Bone had been removed from the bladder after long standing hip-joint disease.

Ischio-rectal abscesses had been opened and fragments of bone discharged therefrom in cases where the abscess was due to Pott's disease of the spine. Dr. Walshe and others had published cases where pieces of bone had been coughed up from the lungs, after spinal abscess resulting from injury to the back. The late Mr. A. Shaw had recorded a case where a spinal abscess had discharged itself into the bladder, but Mr. Browne said he was not aware of any case on record where bone from the spine had been discharged into, or had required removal from, the urinary bladder. When an operator had any reason to believe (when performing lithotrity) that he had to do with bone or a bony nucleus, it would be desirable to proceed with great caution, for it would be exceedingly easy for the lithotrite to become so entangled with a piece of bone that its jaws could not be disengaged, nor the bone (owing to its toughness) crushed, and then cystotomy would have to be performed under unfavorable conditions. Mr. Browne remarked that among the foreign bodies he had found in the bladder were a pair of forcipressure forceps (which had found their way there from the peritoneum, where they had been left during an abdominal section some months before), and the silk ligature of an ovarian pedicle.

Koch's new method of treatment for tuberculosis and lupus continues to be the foremost subject of interest in medical circles. Sir Joseph Lister has returned from Berlin and gave an address on the subject at King's College Hospital a few days since. His impressions were favorable to the remedy. He regarded its action on tubercular disease as simply astounding, both as a curative and a diagnostic agent. He did not himself think that it was impossible for the dead portions of tissue resulting from the treatment to be got rid of by other than surgical means. Provided they were preserved from septic agency they need not necessarily be separated from the living body, as they could, he thought, be absorbed in the same manner as a catgut ligature was. Sir Joseph Lister compared the action of Koch's fluid with that used by Pasteur in the case of anthrax, an injection of which gave complete immunity from the disease, and said he hoped Koch's future researches would result in showing the remedy capable of so acting on human beings as to give them complete immunity from tuberculosis.

Sir Joseph Lister then briefly alluded to some further researches now being carried on under Koch's superintendence, and said that though he was not at liberty to mention any details, he saw, in the case of two of the most virulent infectious diseases to which man is liable, that the injection under the skin of an inorganic chemical substance cut short these two diseases. The animals were rendered incapable of taking the diseases under the test of the most potent inoculations.

In view of such discoveries as these, it is scarcely extravagant to argue that we may in time realize the conditions of existence depicted in one of Walter Besant's romances ("The Inner House"). In that work a physician discovers an elixir which will prolong life indefinitely (barring deaths from accident), and it is universally adopted amid unbounded enthusiasm. Mortals, in short, are described as already immortal, and death as banished from the community except as the result of violence—accidental or otherwise. In Besant's work, however, as the race advances physically, it retrogrades morally and intellectually, so that after some ages some of the less

degenerate determine to emigrate, and, perhaps, give up the use of the elixir.

In the addendum to the Pharmacopœia, antipyrin, nitro-glycerine, saccharin, and lanoline are designated as follows, respectively, viz.: Phenazone, trinitrin, glnside, and adeps lanel hydrosus. The reason for adopting fresh names is that the names first mentioned have been registered as trade-marks by certain manufacturing druggists, and can therefore only be used to specify the preparations as made by them. Obviously, the General Medical Council could not stamp as official the manufactures of certain druggists to the exclusion of others. Among the other articles added to the British Pharmacopœia will be found antifebrin and phenacetin. The advisability of the two latter additions will certainly be widely questioned.

London, January 2, 1891.

The New Year's honors given by the Crown comprise several for members of the medical profession. Dr. Richard Quain is made a baronet, and Professor Humphry, of Cambridge, is to receive the honor of knighthood, while minor distinctions are conferred on three medical men holding foreign appointments. Few will grudge Dr. Quain his baronetcy, though it comes rather late in life if it is intended as a reward for his long services to the profession, and those who have known him for half a century (Dr. Quain graduated at the University of London in 1840 as M.B., and proceeded to the M.D. degree in 1842) as Dr. Quain will find it difficult to learn to address him as Sir Richard Quain, Bart., now that he is entering his seventy fifth year. Dr. Quain was one of the earliest members of the staff of the Brompton Consumption Hospital, and was for many years an active worker at that fertile field of observation. A genial Irishman, he speedily became popular with patients, and has for many years past enjoyed a lucrative and increasing practice—not limited, however, to diseases of the chest. A Fellow of the Royal College of Physicians during the last forty years, he has long been one of the trusty advisers of his college, and, as such, took an active part in the establishment of the order of Licentiates—a step which has in due course led to the association with the sister college for the purpose of establishing the Conjoint Board. Dr. Quain has also been for years a member of the Senate of the University of London and of the General Medical Council, Physician Extraordinary to the Queen, and (by which he will perhaps be best remembered) the editor of the "Dictionary of Medicine" which bears his name.

Sir George Murray Humphry will live longest in memory as one of the virtual founders of the Cambridge Medical School. Himself an alumnus of St. Bartholomew's Hospital, London, he settled in Cambridge half a century ago, where he became surgeon to Addenbrooke's Hospital, graduating subsequently at the University of Cambridge. Dr. Humphry became in after years Professor of Anatomy (more lately of Surgery) at the University, and in that capacity was, during nearly a quarter of a century, untiring in his efforts to promote the success of the Cambridge Medical School. In this he was warmly seconded by others, notably by Sir George Paget (a brother of Sir James Paget), who is also a distinguished alumnus of the same university.

The Royal Commission on Vaccination have just issued a third report, which is largely made up of evidence from the opponents of vaccination. One of the most eminent of the witnesses who gave evidence adverse to the practice was Mr. Wallace, the distinguished naturalist. In reply to questions from Sir James Paget, Mr. Wallace said that he regarded the introduction of vaccination and the diminution of small-pox as what might be called a casual coincidence; he thought it reasonable to believe that the medical observers of that time were deceived, and that they were especially mistaken, and more than mistaken, in believing that vaccination acted for a whole lifetime. In concluding his evidence Mr. Wallace urged that vacciuation did not account for the diminution in the mortality from small pox, and that the facts on record could be accounted for independently of vaccination. He had laid before the Commission a diagram showing that the decrease of the small-pox mortality of London from 1800 to 1822 was far greater than could be attributed to the amount of vaccination then performed, and a decrease from 1822 to 1884 on the whole far less than it ought to have been from the great increase in the amount of vaccination. Diagrams of Sweden and Prussia showed very similar phenomena, while in Stockholm, Berlin, and Vienna modern epidemics had been as severe as those of the dreadfully insanitary London of the eighteenth century. Mr. Wallace laid great stress on the improvement in the sanitary condition of the population during the last century, as leading to a decrease of mortality from a number of diseases. The Prussian and Austrian armies, both vaccinated and revaccinated, showed an enormous difference in small-pox mortality, but there was a corresponding difference in the general mortality of the two nations, so that the facts were accounted for independently of vaccination. The incidence of small-pox on the vaccinated and unvaccinated was now approximately proportionate to the numbers of these two classes in the community, showing that vaccination had absolutely no effect in warding off attacks of small-pox; while the close agreement in the total percentage of small-pox mortality to cases in the last century, and since vaccination had been enforced, offered a strong presumption that it had not influenced the mortality from the disease. The advantage of the vaccinated over the unvaccinated depended upon a combination of circumstances which had often been pointed out, the unvaccinated including three distinct groups of individuals on whom the disease was likely to be especially fatal, viz.: (*a*) Infants under vaccination age; (*b*) all those in whom vaccination had been postponed on account of ill health or weakness; (*c*) all those who escaped the vaccination officers—a class including the nomad populations, who were living under the most insanitary conditions. Mr. Wallace said that from these facts he drew the conclusion that vaccination was absolutely powerless either in preventing attacks of small-pox or in diminishing small-pox mortality.

The evidence of Surgeon Parke, medical officer to the Emin Relief Expedition, was a refreshing contrast to the pessimistic attitude assumed by Mr. Wallace. Surgeon Parke's testimony was that vaccination was of great value as a protective against small pox. He believed that it saved the lives of many men attached to the expedition. Of the natives who had been vaccinated only four were attacked and none died; those who had not been vaccinated suffered terribly and numbers of them died. Tippoo Tib's men had confluent small pox in a terrible form.

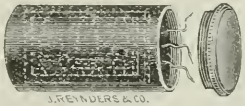
Bad Breath.—Dr. Frank H. Gardner gives the causes of bad breath as follows: First, decaying particles in the mouth as far back as the pharynx vault taint the breath, if exhaled, very little if at all. Second, mouth-breathers have a bad breath when the tonsils are enlarged, or when cheesy masses exist in the tonsillary mucous folds. Third, certain gastric derangements taint the breath only when gases are eructated through the mouth. Fourth, the principal cause of bad breath is decomposition in the intestinal canal, the retention of fecal matter in the transverse and descending colon, and the absorption of gases into the circulation, finally exhaled by the lungs. Fifth, catarrh—nasal, pharyngeal, or bronchial—causes bad breath. Sixth, medicines or ailments which undergo chemical changes below the œsophagus may, by rapid absorption through the stomach walls, or immediately below, give to the breath the characteristic odor. Bad breath is often a source of serious annoyance to the patient, and the fact that it has more than a local cause is too often ignored by the physician, who therefore fails to cure it.—*Dental Review.*

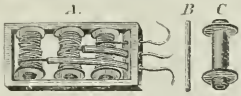
New Instruments.

A NEW LIGATURE BOX.

By F. E. SYLVESTER, M.D.,
NEW YORK.

In nearly every medical and surgical journal of the day we notice articles upon the use of catgut, and its uses for ligatures and sutures, while never a word in regard to the best and safest method of carrying and keeping it always at hand ready for use. If you visit the different hospitals in this and other cities you will notice nearly every operator has his ligatures wound upon glass tubes or cylinders, and thrown loosely into a bottle of antiseptic fluid for transportation, and when using must remove from bottles and unwind as thread from a spool. Many times the whole coil of "gut" becomes infected, either by the unclean hands of the assistant, or by coming in contact with septic material, viz., table, clothes of assistant, etc., and the next time the surgeon operates he finds his wound suppurates, through the infection caused by infected ligatures, and condemns the gut, when the unhandy and unsafe method of carrying his ligatures is responsible for the condition. Others buy their ligatures prepared for the trade by irresponsible people. We are not sure the gut is properly prepared, or that the solution in which it is immersed is safe for us to use from.





The bottles used by the trade are mostly of the old style of glass jars, with glass rollers containing the ligature, with a soft rubber cork, perforated for the gut to pass out, at top, and over this a metal cap, screwing down on top of bottle. The objection to this class of case is, that in nearly every instance, after the cap is once removed, dirt lodges on top of the rubber cork, and at second time of using we find that our ligatures have become infected.

After trying nearly all the prepared articles of gut ligatures I found that to be sure of having a ligature I could depend upon for strength and safety I must prepare my own; and then arose the question how to carry it to be handy for emergency and general use and at the same time embrace all the antiseptic qualities the surgeon of to-day looks for when wishing an article for surgical use.

After some time spent in trying different articles on the market, without finding just what I wanted, with the assistance of William Harz, of J. Reynders & Co., I devised a case large enough to carry three spools of different sized ligature, each spool large enough to hold four to six yards of gut, according to size, still small enough to fit a pocket found in nearly all obstetrical bags.

The case is made of hard rubber, in form of a cylinder, four inches in height, with solid bottom, and cover screwing down on inside of case, making it fluid-tight (see cut). The spools (*C*) are placed in a frame cut from one piece of rubber, turning on a movable shaft (*B*), so in refilling they can be removed from the frame and the ligature wound on as thread upon a spool and replaced. To avoid the entangling of one strand with another, there are placed two small rubber tubes at top of frame, extending down to upper border of second and third rollers (*A*), the ligature from first roller passing directly through slot in frame. The whole frame containing gut is then placed in the cylinder and covered with the fluid preferred, the frame fitting closely enough to retain itself in position when traction is made in using. This has been perfectly satisfactory in every detail, and can be sold at such a price that all who wish to use an article of this kind can well afford one.

230 East Thirty-Second Street.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from January 11, 1891, to January 17, 1891.

Snyder, Henry D., First Lieutenant and Assistant Surgeon. By direction of the Secretary of War, relieved from duty at Fort Reno, Oklahoma Ter., and will report in person to the Commanding Officer at Camp Guthrie, Oklahoma, Ter., for duty at that station, relieving Captain John L. Phillips, Assistant Surgeon. S. O. 11, par. 16, A. G. O., Washington, D. C., January 14, 1891.

Phillips, John L., Captain and Assistant Surgeon. By direction of the Secretary of War, on being relieved will report in person to the Commanding Officer at Fort Reno, Oklahoma Ter., for duty at that station. S. O. 11, par. 16, A. G. O., Washington, D. C., January 14, 1891.

Harris, Henry S. T., Assistant Surgeon. To be Assistant Surgeon with the rank of Captain, after five years' service, in accordance with the Act of June 23, 1874, January 5, 1891. A. G. O., Washington, D. C., January 12, 1891.

Wood, Leonard, Assistant Surgeon. To be Assistant Surgeon with the rank of Captain, after five years' service, in accordance with the Act of June 23, 1874, January 5, 1891. A. G. O., Washington, D. C., January 12, 1891.

Official List of Changes in the Medical Corps of the United States Navy for the week ending January 17, 1891.

Hord, W. T., Medical Director. Ordered as President of Medical Board, to relieve Medical Director J. Y. Taylor.

Dean, R. C., Medical Director. Detached from Hospital, Chelsea, and ordered to Medical Board, Washington, D. C.

Taylor, J. Y., Medical Director. To be placed on the retired list, January 22d.

Rush, W. H., Passed Assistant Surgeon. Orders to the Newark are revoked.

Asheridge, Richard, Passed Assistant Surgeon Orders to the Saratoga revoked, and wait orders.

Cabell, A. G., Passed Assistant Surgeon. Detached from iron-clads and ordered to the Newark.

Lumsden, G. P., Passed Assistant Surgeon. Ordered to the iron-clads at Richmond, Va.

The Size of the Fœtus.—Anvard states that the length of the fœtus at different ages is about as follows: At the middle of the fourth month it is eight inches in length; at the middle of the fifth month, ten inches; of the sixth month, twelve inches; of the seventh month, fourteen inches; of the eighth month, sixteen; of the ninth month, eighteen; and at the end of nine months it is twenty inches long.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending January 17, 1891.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	7	3
Scarlet fever	135	12
Cerebro-spinal meningitis	1	2
Measles	413	18
Diphtheria	89	19
Small-pox	0	0
Varicella	14	0
Pertussis	4	0
Croup	3	0

Agricultural Colonies for the Chronic Insane.—The "Board for the establishment of State Insane Asylum Districts," have placed the following counties in the Hudson River State Hospital District: Washington, Rensselaer, Columbia, Dutchess, Putnam, and Westchester. This district has 1,159 insane, as stated by the Districting Board, while the hospital for the district has accommodations for 800 patients only. In their report to the Legislature for 1885, the managers mentioned fourteen counties as naturally belonging to the Hudson River State Hospital District. These counties were Westchester, Rockland, Putnam, Orange, Dutchess, Ulster, Greene, Columbia, Albany, Rensselaer, Schenectady, Richmond, Queens, and Suffolk. By the census of 1880 these counties were given a total population of 962,933. It was estimated that their insane in 1885 numbered about 3,400. The chief reasons for putting these counties in one district were their easy access to the hospital at Poughkeepsie by rail and river, and the low rates charged for transportation of passengers and freight. The managers have not changed their belief that the true interest of the River Counties can be best secured and served by a central hospital at Poughkeepsie.

Much has been said of the evils of contact with each other of large numbers of insane in the hospital ward, charged as it were with an atmosphere of insanity; of the morbid environment from which the patient has no escape, and which intensifies and multiplies his delusive ideas; and of the difficulty under these conditions of applying such special modifications of treatment as the individual peculiarities of each case might require.

It is not to be forgotten that questions of economical administration are mainly responsible for the system in vogue. It is true in one sense that the more patients in one building, the less the per capita cost of support; hence our massive buildings, constructed on a uniform plan throughout, too expensive for the needs of the large majority of patients, and not expensive enough—that is, not money enough expended—to make them properly adapted for the successful treatment of a small minority among the insane. It is believed that some of the evils complained of in the present system would disappear, or be notably lessened, if quiet and harmless patients were cared for under conditions more nearly allied to family life, having at the same time the constant oversight of the skilled physician.

It is believed that a large majority of the 3,400 insane belonging to the Hudson River Counties might be provided for in small buildings grouped in hamlet fashion; each group to accommodate 250 to 300 patients; each hamlet to be in the centre of a farm of several hundred acres, and to have its farm buildings and stock; also a building in which light mechanical work would furnish occupation in winter, and a small cottage hospital for such as needed its care; and in the centre of the group a residence for the physicians having the immediate care of the patients. The cottages would be homely, perhaps, but homelike and comfortable in their arrangements, and so disposed about the grounds and among the trees as to give a pleasing and picturesque effect. Occupation would be the key-note or motive of the hamlet life, and this in the open air and amid familiar rural scenes. The products of the soil would go far toward the maintenance of the establishment, and in time yield a surplus to be sold at a profit in the markets of New York City. Such agricultural colonies established from time to time, as necessity demanded, and scattered about among the beautiful hills and valleys lying just east of our present hospital, and all being under one central control and management, would furnish economical and adequate provision for housing and supporting the natural increase of the insane population, which is now adding annually more and more to the burden of taxation.

The State Commission in Lunacy report about 2,000 insane that must be removed from county asylums and poor-houses to State institutions, and that about 500 of this number can be transferred to existing State hospitals, leaving some 1,500 to be provided for in buildings yet to be erected by the State. On the first day of October, 1890, there were present at the Willard and Binghamton Hospitals 1,342 patients belonging to the Hudson River Counties. It would be a humane proceeding, and bring joy to hundreds of poor families, to transfer these patients to the Hudson River State Hospital, so that they might be in the neighborhood of their homes, and see and be seen by their friends once more. Such a transfer would leave 1,342 unoccupied beds at Willard and Binghamton, and so furnish accommodations at those hospitals for nearly all who require such accommodations in the counties lying west of the Hudson River Counties. That this plan would accomplish the purpose now in hand, of providing for all the pauper and indigent insane, we have high authority for asserting. It would be, moreover, in harmony with the provisions of Section 4, Chapter 126, Laws of 1890, and from this it follows, that the only new buildings really needed at this time are those that should be put up in connection with the Hudson River State Hospital, and its hamlet scheme.—*Extract from the Annual Report of the Managers of the Hudson River State Hospital, Poughkeepsie, N. Y.*

In Articulo Mortis.—No human being can rest for any time in a state of equilibrium, where the desire to live and that to depart just balance each other. If one has a house, which he has lived and always means to live in, he pleases himself with the thought of all the conveniences it offers him, and thinks little of its wants and imperfections. But once having made up his mind to move to a better, every incommodity starts out upon him, until the very ground-plan of it seems to have changed in his mind; and his thoughts and affections, each one of them packing up his little bundle of circumstances, have quitted their several chambers and nooks, and migrated to the new home, long before its apartments are ready to receive their bodily tenant. It is so with the body. Most persons have died before they expire—died to all earthly longings, so that the last breath is only, as it were, the locking of the door of the already deserted mansion. The fact of the tranquillity with which the great majority of dying persons await this locking of those gates of life, through which its any angels have been going and coming from the moment of the first cry, is familiar to those who have been often called upon to witness the last period of life. Almost always there is a preparation made by Nature for unearthing a soul, just as on a smaller scale there is for the removal of a milk-tooth. The roots which hold human life to earth are absorbed before it is lifted from its place. Some of the dying are weary and want rest, the idea which is almost inseparable in the universal mind from death. Some are in pain, and want to be rid of it, even though the anodyne be dropped, as in the legend, from the sword of the Death-Angel. Some are strong in faith and hope, so that, as they draw

near the next world, they would fain hurry, as the caravan moves faster over the sands when the foremost travellers send word along the file that water is in sight. Though each little party that follows in a foot-track of its own will have it that the water to which others think they are hastening is a mirage, not the less has it been true in all ages and for human beings of all creeds which recognized a future, that those who have fallen, worn out by their march through the desert, have dreamed at last of a river of Life, and thought they heard its murmurs as they lay dying.—Oliver Wendell Holmes.

Curious Food.—The lion is eaten by some African races, but its flesh is held in small esteem. The Zulus find carrion so much to their liking that, according to the late Bishop Colenso, they apply to food peopled by large colonies of larvæ the expressive word "uborni," signifying in their uncouth jargon "great happiness." David Livingstone, that keen and accurate observer, reminds us that the aboriginal Australians and Hottentots prefer the intestines of animals. "It is curious," he says, "that this is the part which animals always begin with, and it is the first choice of our men." On this point I may remind the civilized reader that the woodcock and the red mullet, or sea woodcock, are both eaten and relished without undergoing all the cleansing processes which most animals used for food among us generally experience to fit them for the table, so that our aversion to the entrails of animals is not absolute, but only one of degree. The hippopotamus is a favorite dish with some Africans when they can get this unwieldy and formidable river monster, and when young its flesh is good and palatable, but with advancing years it becomes coarse and unpleasant. The Abyssinians, the amiable people to whom, according to the Italian Prime Minister, his countrymen proposed to teach wisdom and humanity, find the rhinoceros to their taste; so they do the elephant, which is also eaten in Sumatra. Dr. Livingstone describes the elephant's foot as delicious, and his praises will be echoed by many travellers in lands where that sagacious monster still lingers in rapidly decreasing numbers. "We had the foot," wrote the doctor, "cooked for breakfast next morning, and found it delicious. It is a whitish mass, slightly gelatinous, and sweet like marrow. A long march to prevent biliousness is a wise precaution after a meal of elephant's foot. Elephant's tongue and trunk are also good, and after long simmering much resemble the hump of a buffalo and the tongue of an ox, but all the other meat is tough, and from its peculiar flavor only to be eaten by a hungry man."—*Annals of Hygiene.*

Typhoid Bacilli in Urine.—Dr. Justin Karlinski communicates the results of some observations on the existence of typhoid bacilli in the kidney and urine. In six cases of typhoid fever the urine was taken after death by means of a trocar, and in thirty-eight cases it was drawn during life by a catheter and examined bacteriologically by means of gelatine plate cultures. In the cases where a post-mortem examination could be obtained sections of the kidney were also made, and examined by inoculating gelatine as well as microscopically by Konarieff's process. Of the six cases where the kidneys were obtained, collections of rounded granulation elements were found in five, both in the cortical part and beneath the capsule, a few typhoid bacilli lying among them. In the central portion no bacilli were found. In one case they were found in the tissue lining the pelvis of the kidney. In the forty-four cases in which the urine was examined Eberth's bacilli were found in twenty-one, all these specimens of urine containing also albumin. In cases where the albuminuria was transient the bacilli were not discovered. Sometimes they appeared in the urine much earlier than in the stools; the earliest appearance in the urine being on the third day, while they were never detected in the fæces before the ninth day of the disease. They were, moreover, much easier to find in the urine. Dr. Karlinski also made a series of experiments in order to ascertain whether these bacilli develop in albuminous urine. For this purpose he kept tubes of albuminous urine containing them for some time in a thermostat at about the temperature of the body and examined them daily, with the result that he found the number of colonies increase very rapidly. The vitality of these was preserved also for a long period. Experiments were likewise made with urine containing bile, but it was found that this entirely destroyed the bacilli in about five days.—*The Lancet.*

Painful Flat-foot (Valgus) and the Different Methods of Osteotomy which are Applicable for its Cure.—Dr. Kirmisson says that three theories have been advanced as to the origin of this condition: 1. Duchenne's muscular theory, involving the functional impotence of the lateral peroneus longus. 2. Gosselin's theory, that the disease is the result of primary lesions in the articular cartilages. 3. Le Fort and Tillaux's theory, that it is due to relaxation of the ligaments. Still another theory has been advanced, by Whitmann, that the lesions and deformities are the consequence of the overloading and overriding of the plantar vault. In the author's opinion the most important element is the turning of the foot outward, from which follow traction on the ligaments, pain, and functional impotence. The proof of this theory consists in the fact that when one succeeds in correcting the forced abduction of the foot, the latter, while resting on the level, ceases to give rise to pain, inasmuch as the weight of the body then rests upon the plantar surface of the foot and not upon its internal border. After having tried complete rest for the member in bed, which may be required after there has occurred a muscular contraction of average intensity, one must have recourse to forced redressment, aided by chloroform and tenotomy of the lateral peroneal muscles, as advised by Barwell. This should be followed by prolonged immobilization of the foot in a plaster bandage. If the results of such treatment should not be permanent, or if extreme muscular retraction or deformity of the articular surfaces do not favor redressment, osteotomy should be practised along the internal border of the foot. The best-known procedures are Bennet's cuneiform excision of the astragalus, Stokes's resection of the astragalus, Vogt's extirpation of the astragalus, Ogston's operation upon the astragalo-scaphoid articulation, and Davy's and Golding-Bird's operation upon the scaphoid. The author believes that osteotomy is only exceptionally indicated for this lesion.—*Archives of Pediatrics.*

A Surgical Use for Ants.—Ants have very powerful jaws, considering the size of their bodies, and, therefore, their method of fighting is by biting. They will bite one another, and hold on with a wonderful grip of the jaws, even after their legs have been bitten off by other ants. Sometimes six or eight ants will be clinging with a death-grip to one another, making a peculiar spectacle, some with a leg gone, and some with half the body gone. One singular fact is that the grip of an ant's jaw is retained even after the body has been bitten off and nothing but the head remains. This knowledge is possessed by a certain tribe of Indians in Brazil, who put the ants to a very peculiar use. When an Indian gets a gash cut in his hand, instead of having his hand sewed together, as physicians do in this country, he procures five or six large black ants, and holding their heads near the gash, they bring their jaws together in biting the flesh, and thus pull the two sides of the gash together. Then the Indian pinches off the bodies of the ants and leaves their heads clinging to the gash, which is held together until the gash is perfectly healed.

The Cost of the Johns Hopkins Hospital.—Up to two years ago, the buildings of this Hospital cost about two million dollars.

Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 39, No. 5.
Whole No. 1056.

NEW YORK, JANUARY 31, 1891.

$5.00 Per Annum.
Single Copies, 10c.

Original Articles.

THE ETIOLOGY OF THE DISEASE KNOWN AS SUPPURATIVE TONSILLITIS AND ITS SURGICAL TREATMENT.

WITH REMARKS CONCERNING THE PREVENTION OF INFLAMMATORY DISORDERS OF THE TONSILS.[1]

BY CLARENCE C. RICE, M.D.,

PROFESSOR OF DISEASES OF THE NOSE AND THROAT, POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL, NEW YORK.

THERE is no further demand in medical literature for exhaustive treatises on inflammatory conditions of the tonsils. The subject of tonsillar inflammation has with the appearance of each new text-book been brought up to date.

If, however, we compare the notes on tonsillitis we wrote in our books when we were first or second year medical students with the descriptions of the disease which have been written within the year, we mark the striking similarity between the two as to classification of disease, etiology, and symptoms. The etiological division into predisposing and exciting causes has been followed, and the several factors under these two divisions have been formulated in about the same terms by writers during the past ten years.

There are two phases of this subject, however, which are at present receiving special attention, and which may, when better understood, change considerably the present accepted ideas of the etiology of tonsillar inflammation.

One is *the physiological functions of these organs*, and the other is the amount of truth which will be demonstrated to exist *as to the bacillary or septic causation of inflammations here and elsewhere.*

In stating the etiology of tonsillar inflammations, it makes some difference whether we believe that the tonsils simply give shape to the masses of food as they pass into the alimentary canal, and furnish lubricating fluid for the pharynx, or whether, as absorbents, they drink up superfluous fluid and digested products. It is an important point to be decided in arriving at the cause of the frequency of the several manifestations of tonsillar inflammation whether the tonsils are to be regarded as open-mouthed, unprotected viaducts through which each and every kind of pathological microbe may easily pass into the general lymphatic system, or whether, on the contrary, they are blood-fortifying reservoirs filled with leucocytes which stand as sentinels to destroy the micro-organisms which enter the commencement of the respiratory and alimentary tracts.

It cannot be denied that the location of these collections of lymphoid tissues, both the faucial tonsils and the adenoid tissue in the post-nasal pharynx, is most convenient for either of these purposes; and that they possess important physiological functions would seem most reasonable.

The different physiological actions which have been attributed to the tonsils by such investigators as Killian,[2] Spicer,[1] Hingston Fox,[2] Stöhr,[3] Schmidt,[4] and others all deserve consideration, because the conclusions arrived at are the result of painstaking observations.

Most investigators are agreed that the adenoid tissue situated at the vault of the pharynx called Lushcka's tonsil, the faucial tonsils, and the lingual tonsil are histologically indentical, and that they are similar to lymphatic tissue in other parts of the body. Another point, which seems to be a settled one, is that the tonsils, like other lymphatic tissue, are remarkable organs, in that they contain a multitude of leucocytes, and are in all probability blood-elaborating organs. Whether these leucocytes are only in a condition of immigration toward the general circulation to fortify the blood, or whether, in addition to this, they pass outward into the pharynx to attack micro-organisms which have entered the mouth, remains to be shown. It is easy to understand that the tonsils may possess either or both of these functions.

That the tonsils, like other lymphatic tissue, perform an important part in the elaboration of the blood seems to be proven by the following clinical observations:

First. The entire lymphatic tissue situated in the upper respiratory tract is largest during the formative period from infancy to puberty.

Second. That after that period, when it is not so much needed, this lymphoid tissue shows a strong tendency to atrophy.

Third. That in strumous, cachectic, unhealthy children, where the blood-producing organs are most needed, the tonsillar tissue, both in the post-nasal and middle pharynx, is more largely developed than in healthy children.

Fourth. That in cases of marked anæmia occurring in the young the functional tissue of the tonsils has been found to be deficient.

What shall we say to the objection that may properly be urged, viz., that strumous children, who have exceedingly large tonsils, are frequently anæmic, and poorly nourished, and that after the tonsils are removed these children often become strong and healthy. The answer is, either that the tonsils are in a pathological condition and consequently not performing their function, or that on account of their over-size they mechanically interfere with respiration to such an extent that their function is practically abrogated.

It would seem at first thought more difficult to explain the perfectly healthy condition of these children who are said to have no tonsils. Upon careful examination, however, lymphoid tissue, either in the fauces, the vault of the pharynx, or base of the tongue, will be found to be present. It is impossible at the present time to agree upon any standard as to the proper amount of adenoid tissue, and quite as difficult to state at what point tonsillar tissue becomes pathologically hypertrophied.

There remains, it is thought, another function of the tonsils, and this, if it does exist, is of far more importance to our paper than the ones mentioned. A warfare is going on at present in bacteriological study. The question in dispute is, in what way is the power of pathogenic

[1] Read before the Laryngological Section of the New York Academy of Medicine, November 25, 1890.

[2] Killian, G.: Ueber die Bursa und Tonsilla pharyngea. Morphol. Jahrb., Bd. xiv., S. 618-711.

[1] Spicer, Scanes: The Tonsils, their Functions and Relation to Affections of Throat and Nose. Lancet, 1888, vol. ii., No. 17, p. 805.

[2] Fox, Hingston: Quinsy, Proceedings Medical Society, London, vol. ix.

[3] Stöhr: Ueber Mandeln und Balgdrüsen. Virchow's Archiv, Bd. xcvii., S. 211.

[4] Schmidt, F. Th.: Das Folliculäre Drüsengewebe der Schleimhaut der Mundhöhle und des Schlundes. Zeitsch. f. wissensch. Zoologie, Bd. xiii., S. 221.

germs rendered harmless in the human body? It is enough for our purpose to state that the larger number of investigators believe that micro organisms are killed or rendered harmless by the *chemical action of the blood serum*, while the minority, at the head of which is Metschnikoff,[1] hold that the real enemies of disease-bearing bacteria and bacilli are the leucocytes or phagocytes; and I draw the inference from their writings that the leucocytes of the tonsils, like those of the alimentary canal, are capable of attacking, receiving, and digesting pathogenic germs.

Now the point we desire to make is, that the tonsillar tissue is in a most convenient location, and it contains the leucocytes to destroy micro organisms if this function—the phagocytic theory—is admitted; or if the blood serum must be reached before germs are rendered powerless to do harm, the germs are, through the tonsillar tissue, carried into the general circulation, so that in either case the function of germ-destroyers may be properly attributed to the tonsils.

It is not within the scope of this paper to discuss fully the details of all the different functions which have been accredited to the tonsils, but in searching for the etiological factors which produce tonsillar inflammation, it has seemed to us most pertinent to state our belief that the tonsils are not only strong auxiliaries to the blood-elaborating system of the body, but that they are also probably capable of destroying pathogenic germs. If this be true, the conclusion is immediately forced upon us that when the function of the tonsils has been destroyed for any reason—as, for instance, by frequent congestions and consequent interstitial thickening, by overgrowth, by disease of the lacunæ, or by an occlusion of the tonsils by the over-reaching of the pillars of the fauces—that when, for these and other reasons, the function of the tonsils is abolished, they no longer destroy pathogenic germs, but their follicles furnish convenient recesses into which micro-organisms may enter, and through which they may easily reach the general circulation.

Radcliffe[2] states that "the materials in a number of septic diseases enter through the crypts of the tonsils and have their manifestations there," and he adds that "the function of the tonsils in absorbing any excess of secretion renders them liable to absorption of septic material."

Jeanselme,[3] in his article on the relation of the tonsil to the production of infection and the entrance of infection into the system, says that unbroken healthy tissue is the best barrier to septic absorption, while the tonsils, exposed to infection both through the alimentary and respiratory tracts, are very liable to absorb septic matter, especially if they be enlarged, if the crypts be open and the epithelium denuded. He states that people with large tonsils are especially susceptible to disease.

John Trumbull[4] cites a case of infective phlebitis resulting from an attack of follicular tonsillitis, and he says "that what begins as a follicular tonsillitis occasionally results in suppuration in or about the gland itself, and in quinsy we have the introduction of septic bacteria into the deeper or surrounding portions of the tonsils, and the absorption may then be along the lymphatics."

A. Fraenkel[5] calls attention to the possibility of infection via tonsils. Haig Brown[6] says that "tonsillitis is not a mere catarrh, but of bacillary origin," and he adds that both rheumatism and tonsillitis appear to be excited by damp weather, but he believes that septic influences are the cause of both.

Lennox Browne[1] recognizes a septic variety of tonsillitis, and thinks the diagnostic point of this variety is that it attacks both sides of the pharynx.

I believe that all severe grades of tonsillar inflammation are septic, due to specific micro-organisms, and I would call sepsis the chief exciting cause of tonsillar inflammation, while the great predisposing etiological factor, and it is, I believe, of more significance than the rheumatic diathesis or the nervous temperament, is the presence of pathological tonsils—tonsils which do not destroy, but which invite pathogenic germs. This, therefore, is our etiology—*sepsis or specific germ the exciting*, and the presence of pathological tonsils the predisposing cause of tonsillar inflammation.

Now to consider more especially the etiology of that special form of tonsillar disturbance called "suppurative tonsillitis." A great deal of confusion has been occasioned by a needless elaboration of acute tonsillitis into a classification of many varieties. We find a division into acute, subacute, and chronic, and we find mentioned such names as simple, catarrhal, superficial, lacunal, follicular, interstitial, parenchymatous, phlegmonous, quinsy, suppurative and non-suppurative tonsillitis, tonsillar abscess, and retro- and peri-tonsillar abscess.

From a clinical point of view, and for teaching purposes, a much simpler classification is adequate, and I would suggest the following:

1. Acute follicular or lacunal tonsillitis, which may become a parenchymatous tonsillitis, and which may, very rarely, be followed by peritonsillar abscess.

2. Acute parenchymatous tonsillitis of all grades of severity, which may or may not be followed by peritonsillar abscess. A chronic parenchymatous tonsillitis is occasionally seen and is caused by the presence of leptothrix elements in the lacunæ of the tonsils.

3. Peritonsillar abscess.

These three divisions really cover the entire ground. The terms, simple, catarrhal, and superficial, are superfluous. They are only used to indicate a mild degree of tonsillar inflammation.

I like Haig Brown's[2] classification into follicular and interstitial tonsillitis, were it not doubtful whether an inflammation of the tonsils is ever confined strictly to the interspaces between the lacunæ of the glands. In all cases the entire structure is probably more or less involved.

The name parenchymatous should be used as indicating the involvement of the entire tonsil. The term acute tonsillitis is not sufficient, because it does not indicate the variety.

I take exception to the terms suppurative and non suppurative tonsillitis, because clinical experience has taught us that when suppuration occurs in this neighborhood, pus is rarely to be found in the tonsil, but may almost always be discovered in the connective tissue, either in front or behind the tonsil, so that the term peritonsillar abscess would seem to be more correct. Retrotonsillar abscess may be discarded as clinically unnecessary.

It would be a waste of time to advocate the use of the name peritonsillar abscess as a substitute for that of suppurative tonsillitis if it were not that the latter name is a misleading one to the physician, who is called upon to locate and evacuate the pus during the course of this disease. We have all made ineffectual stabs into the tonsils too many times in search of pus not to appreciate how gratifying it is to the patient, and how satisfactory to the physician, to know exactly where pus can be reached by a knife at the first attempt. But I wish to speak more fully of this later.

Follicular or lacunal tonsillitis, which is, I believe, a specific disease, due as much to a specific germ as is

[1] Metschnikoff, Elias: Ueber eine Spross pilzkrankheit der Daphnien. Virchow's Archiv., Bd. cvii., S. 209.

[2] Radcliffe, S. J.: Relation of Tonsillitis to Rheumatism. Journal of the American Medical Association, Chicago, 1890, vol. xiv., pp. 533-536.

[3] Jeanselme: De l'arrière-gorge et de l'amygdale en particulier considérées comme portes d'entrée des infections. Gaz. d. Hôp., Paris, 1890, vol. lxiii., pp. 97-105.

[4] Trumbull, John: New York MEDICAL RECORD, 1890.

[5] Fraenkel, A: Quoted by Boucsin, G. F., in Tonsillitis, American Journal of the Medical Sciences, Philadelphia, 1889, vol. xcviii., pp. 348, 359.

[6] Brown, Haig: Discussion on Tonsillitis. British Medical Journal, London, vol ii., pp. 582-588.

[1] Browne, Lennox: Discussion on Tonsillitis, its Varieties and Relation to Rheumatism. British Medical Journal, London, 1889, vol. ii., pp. 582-588.

[2] Brown, Haig: Discussion on Tonsillitis. British Medical Journal, London, vol. ii., pp. 582-588.

diphtheria, is not followed in the majority of instances by an involvement of the whole gland (parenchymatous tonsillitis), and rarely does it terminate in peritonsillar abscess. Professor Koch or his disciples will probably discover the bacillus of follicular tonsillitis, if it is worth while to inoculate against a disease which can so easily be prevented by destroying the tonsil.

As we have said suppuration in the neighborhood of the tonsil occasionally follows an attack of follicular tonsillitis, but in a very much larger percentage of cases it follows parenchymatous tonsillitis. But the question which is of the most importance to us is why an attack of parenchymatous tonsillitis is repeatedly followed by peritonsillar abscess in some people and never in others. We can get over the matter easily by attributing it to heredity, to rheumatic diathesis, or to nervous temperament, but there is little satisfaction in such explanation.

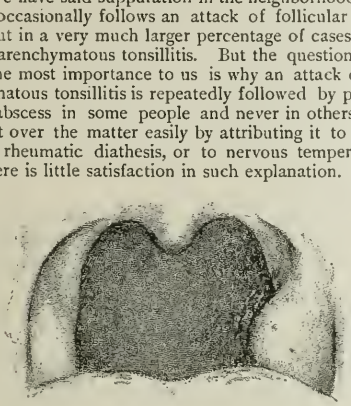


Fig. 1.

I have studied my cases of peritonsillar abscess carefully of late, and I have found in almost every instance that there existed an abnormal relation between the tonsil and the pillars of the pharynx. I have noticed two conditions, one in which the tonsil when in a quiescent state was small, not extending beyond the pillars of the pharynx, but the anterior pillar was not only adherent to it, but intimately grown into the tonsil at a point opposite the upper portion of the tonsil (Fig 1). In the second variety the tonsil was considerably enlarged and was covered by the anterior pillar, the pillar overlapping it to the extent of one-fourth of an inch and adherent to the tonsil at a number of points (Fig 2). I have noticed, too, that the posterior pillars, in cases of repeated peritonsillar abscess, were thickened and were covered by

Fig. 2.

the tonsil, so that it was necessary to draw the tonsil forward to see the whole width of the posterior pillar. I believe that this relation between the pillars of the pharynx and the tonsil plays a more important rôle in the causation of suppuration than does either heredity or any abnormal condition of the blood. It is a very significant fact that this relation exists so constantly in these cases. I am so strongly convinced that this union of palatine fold and tonsil determines in many instances the course which a parenchymatous tonsillitis will follow, that when I examine a tonsil for the first time during an attack of acute inflammation, and find it quite free from adhesions. I feel confident that suppuration will not ensue. More than this, I have in five cases who suffered twice a year from peritonsillar suppuration separated the adhesions between tonsil and pharyngeal pillars, and in three instances there has been no suppuration for more than a year, and in two none for a little less than a year, although all of these patients have during that time suffered from attacks of acute tonsillitis of a mild grade. In none of these cases was the tonsil itself treated.

I have only suppositions to offer in explanation of this relation between tonsil, pharyngeal pillars, and consequent suppuration.

May it not be that in all cases of parenchymatous tonsillitis, whether mild or severe, pyogenic germs are present in and about the glands, but that when a portion of the tonsil—that is, a number of the lacunæ—is covered by and occluded by the pillar of the pharnyx, which either overlaps or has grown into the tonsil, the inflammatory condition is pent up, or in other words, the pus producing germs are not allowed access toward the pharnyx, and so work their way into the tissue about the tonsil, the direction offering the least resistance, and there pus is formed — the peritonsillar abscess? On the other hand, when the tonsil is free from all over-covering of tissue, and the lacunæ are pervious, the parenchymatous inflammation is spent in a few days without any suppuration. Frequent suppuration is to my mind only explained by the condition of the tonsils themselves, and it cannot, I believe, be satisfactorily explained by any diathesis. If it were a matter simply of absorption through large tonsils with widely-open crypts, why do not children suffer from peritonsillar abscess?

Lennox Browne[1] says: "Peritonsillitis often occurs as a result of a low state of the health, which may be the exciting cause." In his experience this variety is generally associated with septic conditions of drinking-water, etc. A low condition of the system and bad hygienic surroundings does not explain the presence of suppuration in cases of peritonsillar abscess in this country, because it does not tally with clinical facts. People in the best of health, and living under the most favorable conditions, suffer from peritonsillar abscess as frequently as any other class.

Writers have always declared, and we all agree, that people who habitually have attacks of peritonsillar abscess have a predisposition to this disease, and without that predisposition they cannot have it. The only matter to decide is what this predisposition is. I believe that peritonsillar abscess rarely occurs, no matter what the exciting cause or the surrounding conditions, except where the lacunæ have been very much encroached upon by a hyperplasia of the stroma of the gland due to frequent congestions, or where the lacunæ are occluded by the pharyngeal pillars.

Richardson Park[2] says: "Quinsy is not produced in insusceptible people by cold or exposure." And he asks: "How do observers who say quinsy is caused by exposure to cold explain that in one cold always produces pharyngitis, in another quinsy?"

The exposure to pyogenic germs must be common to all, but it is only the tonsil in the pathological condition described that suffers from the attack. Although pus almost always collects in the peritonsillar connective tissue we believe the infection is received through the tonsil, and it may even be possible that the first pus-forming centre is in the tonsil, and that it quickly works its way into the connective tissue in front or behind the tonsil, where it is found by the surgeon. That peritonsillar abscess is not a disease of the pharyngeal pillars or of the peritonsillar connective tissue alone would seem to be proven by the fact that it almost never occurs after the tonsil has been thoroughly destroyed by the galvano-cautery.

One significant clinical point which should have been mentioned is that in former years, when little attention was paid to the use of antiseptics in nasal surgery, an operation on the nasal septum was frequently followed by an attack of follicular tonsillitis, and I remember two

[1] Diseases of the Throat, p. 224.
[2] Park, J. Richardson: New York Medical Journal, July 20, 1890.

instances where such operations seemed to be the direct cause of peritonsillar abscess. The infection was derived from the unclean wounds of the nose.

We cannot well pass on to the treatment of peritonsillar abscess without referring to the predisposing causes of this disorder which many writers lay great stress upon. There is no dispute as regards sex; men suffer from peritonsillar suppuration twice as often as do women. Exposure, smoking, drinking alcoholic stimulants explain this. While some writers claim that heredity is a strong predisposing factor in parenchymatous tonsillitis, I do not know that they have traced such connection specially in their cases of suppuration about the tonsils. I have never been able to satisfy myself that heredity played any important part. The history we get from the present generation in regard to the condition of the throats of their ancestors is not very valuable. G. F. Boucsein found that six cases out of forty-three gave history of family disposition to tonsillitis, and Haig Brown's statistics give ten out of one hundred and nineteen cases as having hereditary tendencies to tonsillitis.

Hundreds of pages have been written during the last few years concerning the relation between rheumatism and tonsillitis, and some writers seem anxious to prove that every sufferer from acute tonsillitis is rheumatic. Such enthusiasts tell us that a description of one disease would perfectly answer for the other, and the newest remedies for tonsillitis are administered because they have been proved efficacious in rheumatism. We quote from a few writers:

Lennox Browne [1] says: "I have long been of the opinion that the darthous or arthritic diathesis invariably exists in those patients subject to recurrent attacks of tonsillitis."

Radcliffe [2] says: "There can be no doubt of this relationship, because remedies that cure one will cure the other," and suggests that there may be a rheumatic germ that enters the tonsil.

Jonathan Wright [3] says: "In severe cases of tonsillitis there is an undoubted rheumatic taint."

Barclay Brown [4] says: "The relation between rheumatism and tonsillitis is so intimate that the condition of the heart should be ascertained in people who suffer from tonsillitis."

Charles Warden "has never seen a case of acute or chronic rheumatism without congestion of the tonsils."

Boucsein finds that fourteen per cent. of people who suffer from tonsillitis have rheumatism, and Haig Browne says that seventy-six out of one hundred and nineteen patients suffering from acute tonsillitis had rheumatic tendencies, and he thinks heart disease commonly caused by tonsillitis. His explanation is that a specific germ finds its way into the tonsil, inflames it, and then attacks the fibrous and serous structure. The statistics showing the relation between rheumatism and tonsillitis range from fourteen to eighty per cent. However close the relationship between rheumatism and ordinary attacks of tonsillitis may be—and I have not been able to get an authentic history of such relationship in more than six per cent. of my cases—I have found rheumatic history in only three out of twenty four cases of peritonsillar abscess.

As I have said, believers in this relationship advocate in the treatment of tonsillitis remedies which are of the greatest benefit in rheumatism, such as the salicylate of soda and lithia. Salol, grs. x. every two hours, is the last addition, and although it seems to control the pains of tonsillitis in a remarkable manner, Gougenheim, who has used the drug considerably, says that it has never been known to abort a case of suppuration about the tonsils. Benzoate of sodium is another drug used on the supposition that tonsillitis and rheumatism are very closely akin. Five-drop doses of Norwood's tincture of veratrum viride, combined with small doses of morphia, has recently been extolled as a remedy of great efficiency in tonsillitis.

Before speaking of the surgical treatment of peritonsillar abscess, I wish barely to allude to an article written by J. Richardson Parke: [1] "An Inquiry into the Relationship of Amygdalitis to the Cerebro-spinal Centres."

After describing carefully the nervous supply to the tonsils, and showing the intimate relation between the different cranial nerves going to this region with those of the sympathetic system, he cites cases; one in which a blow on the back with a belt caused an attack of acute tonsillitis, and another where quinsy followed the nervous shock caused by reading an account of a fire. He believes that strong mental impressions are able, in a reflex manner, to close the orifices of the lacunæ of the tonsils, and inflammation results.

The surgical treatment of peritonsillar abscess remains to be spoken of. Clinical experience has taught us that we possess no drug which can be depended upon to shorten an attack of parenchymatous tonsillitis; careful observation has repeatedly shown that all attacks of acute tonsillitis not followed by suppuration tend to improve after the third day without medication, and we know of no drug which will shorten the period of exacerbation, and certainly none that will abort an impending attack of peritonsillar abscess, so that when suppuration in this region has commenced it is clearly the duty of the physician to hasten suppuration and to evacuate the pus as early as possible. Every moment of pain that can be saved the patient during this distressing disease will be appreciated. I do not propose to speak of the medical treatment of these cases. I will only add that I have found hot applications of more benefit than cold ones; they relieve pain to a greater degree, and bring the abscess to a termination more rapidly.

The most important point in the treatment of peritonsillar abscess is to locate the exact point at which pus is forming as early as possible. And I believe we may say that it will be found in one of two places, either between the anterior pillar and the tonsil or in the posterior pillar. The pus is not generally located below the plane of the dorsum of the tongue. The reason pus is oftentimes located so late in the disease is because the pharynx cannot be properly examined without good illumination, the use of cocaine, and plenty of time. And these three things are not always at the command of every physician. It is well, as a routine practice, when we first see these cases, unless we have had charge of them from the beginning, to apply cocaine, a ten per cent. solution, to the tonsil itself, so that by its contraction the pillars of the pharynx will be freely exposed. The posterior pillar is usually completely hidden until this is done. Some of the most satisfactory cases of peritonsillar abscess I have seen have been those in which, as soon as the tonsil was shrunken by cocaine, a bag of pus was exposed in the posterior pillar.

A physician of this city who suffers from periodical attacks of peritonsillar abscess sent for me a few months ago. I found him in great distress. He had had his tonsil scarified every day for three days without relief. I found a collection of pus in the posterior pillar, hidden beneath and behind the tonsil. The pus is to be found more often, however, in the connective tissue, just in front of and a little external to the tonsil, and several days are required to bring the pus out to a point where it can be reached with a knife. I sometimes resort to an expedient which has proven useful in these cases. I puncture through the anterior pillar only to the depth of one-fourth of an inch with a narrow-bladed tenotomy knife—sometimes I have made this puncture with a galvano-cautery point. I then insert a large-sized probe and pass it down into the connective tissue lying at the anterior external

[1] Diseases of the Throat, p. 225.
[2] Radcliffe, S. J.: Relation of Tonsillitis to Rheumatism. Journal of American Medical Association, Chicago, 1890, xiv., p. 533.
[3] Wright, J.: Salol in Acute Tonsillitis and Pharyngitis. American Journal of the Medical Sciences, Philadelphia, 1890, n. s., c. 153–155.
[4] Brown, Barclay: Discussions on Tonsillitis, etc. British Medical Journal, vol. ii., 1889, pp. 582–588.

[1] Parke, J. Richardson: New York Medical Journal, July 26, 1890.

angle of the tonsil, and I make it a point to pretty thoroughly break up the connective tissue along the course of my probe. I have found pus in a number of cases at an early stage in this way, but I do it principally because it relieves tension and favors the passage of pus in this direction. It is of course perfectly safe to pass deeply into the tissues with a probe where the use of a knife would be unsafe. The opening thus made is kept open by the daily passage of the probe. I have not found that this procedure increased the irritation, but, on the contrary, decreased the inflammatory swelling. We must never omit to search for pus down in the lower pharynx, in front or behind the tonsil. Here unrecognized pus sometimes produces dangerous swelling and dyspnœa. Pus will almost never be found in the tonsil itself until at a late period of the attack, and then I think it has worked through into the tonsil from the tissue about the gland. Scarification of the tonsil almost always does harm and should not be persisted in. The use of strong solutions of cocaine, twenty per cent., applied frequently to the tonsils, as advocated by some writers, may prove a dangerous therapeutic measure. I have usually found that the swelling is greater after the effect of the cocaine has worn away than before its application, and I cannot refrain from adding that I believe morphia to be a dangerous drug in any considerable dose. Patients need all their faculties to enable them to clear their pharynges of mucus, saliva, and pus. Poultices, steam inhalations, hot gargles will all hasten the end of the attack.

Happily it is in our power to relieve our patients from suffering from future attacks of tonsillar inflammation. When a tonsil shows itself competent, at short intervals, to absorb septic material, to become inflamed, and to induce suppuration in its neighborhood, it is clearly in a pathological condition, and it should be destroyed. It is agreed that excision is the best measure to rid children of enlarged tonsils which interfere with respiration and deglutition, but in the case of adults, and young adults who suffer constantly from follicular and parenchymatous tonsillitis, some of whom are disposed to suppuration about the tonsils, here the tonsils are, as a rule, not large, many of them are too small to excise, and many of them are so congested that the use of the galvano-cautery point or écraseur is deemed safer than the tonsillotome. In these cases by destroying a portion of the tonsils we can nearly always promise our patients immunity from further attacks of tonsillitis. Why should we spend so much time over the discovery of new drugs when we can so easily prevent tonsillar inflammation? It is remarkable how little of a tonsil needs to be destroyed to completely check its disposition to inflammatory attacks—one or two linear incisions through the length of the tonsil with the galvano-cautery electrode, and these need not be deep, has in my experience been sufficient to prevent further attacks of tonsillitis. Great care should be taken to separate adhesions between the tonsils and the pillars of the pharynx.

The many objections to the removal of large tonsils in children, which have been proven to be groundless, are not urged against the partial destruction of smaller tonsils in adults. The only uncomfortable result I have ever noticed following the burning of a tonsil was a dryness of the pharynx, but this was only a temporary condition, lasting but a few weeks. This would seem to prove that although the tonsil may not secrete lubricating fluid, there is glandular tissue intimately connected with it, which does.

I need not say that the galvano-cautery should be applied very carefully, that no harm should be done to the pillars of the pharynx, to the uvula, or to the tongue. Where there is an overlapping of the pharyngeal pillars they should be separated from the tonsil with the handle of a bistoury before the tonsil is burned, and it is well to apply to the raw surfaces a solution of mercuric bichloride—1 to 1,000—by means of a cotton pledget, though the cautery is a very efficient sterilizer. When the anterior pillar presents a second redundant fold, it must be burned down to the normal line of the anterior pillar. If the tonsil requires more than one burning (and it is possible to destroy a large tonsil at one sitting), the redundancy of the anterior pillar should not be touched with the cautery until the last burning, so that the patient will suffer as little pain as possible. Very little inflammatory reaction and pain follow injury to tonsillar tissue, but the pharyngeal pillars resent any traumatism. If the tonsils are quite large, as they occasionally are in adults, burning the entire mass from the external surface is too slow a process, and the use of the hot loop, the galvano cautery écraseur, as recommended by Dr. C. H. Knight, may be used with advantage, but this procedure requires skilful manipulation. I have resorted to two expedients in the treatment of large tonsils, where I did not care to use the tonsillotome after the usual method. I have first punctured the tonsil to the depth of the pillars of the pharynx, perhaps ten times, with the galvano-cautery, in order to destroy the blood vessels, and have then removed the undermined tonsils with scissors or with the tonsillotome. The electrode is introduced into the anterior, not the inner, surface of the tonsil.

I have also, in some cases of enlarged congested tonsils in adults, used a dull tonsillotome, and have pushed the blade through the mass slowly, consuming several minutes in the operation. This would be something on the principle of the use of the cold wire. I find that adult patients can easily tolerate the tonsillotome in the mouth for some time, if the head is inclined forward so that the saliva can flow out of the mouth. The pain is not great. Cocaine should not be applied to the tonsils where cutting is to be done, because it compresses the tonsils into a small hard mass, and because it drives all the blood out of the tonsils, and hemorrhage may occur when the effect of the cocaine has worn away and the patient has left the physician's office.

In conclusion, I would like to state my belief in the following propositions :

First. That the tonsils, like other lymphoid tissue, are blood-elaborating glands.

Second. That when they are in normal condition they probably perform a second function by reason of the large number of leucocytes contained in them, and this function, if not aggressive, at least possesses the power to prevent the entrance of pathogenic germs through the crypts of the tonsil.

Third. That when the tonsils have ceased to perform their function, by reason of such pathological conditions as interstitial thickening and occlusion of the lacunæ of the glands, they probably present open mouthed viaducts through which pathogenic germs may pass to the lymphatic circulation.

Fourth. That all kinds of tonsillar inflammation are due to septic causes, or in other words to specific germs, and that those causing follicular disease, parenchymatous disease, and peritonsillar abscess, are different from one another.

Fifth. It is believed, therefore, that septic influences are the exciting cause of tonsillar inflammation, and that the presence of pathological tonsils—tonsils unable to perform their physiological function—is the chief predisposing cause.

Sixth. That a classification of tonsillar inflammation into three varieties is sufficient, viz, follicular, parenchymatous, and peritonsillar abscess.

Seventh. That suppurative tonsillitis is not a correct name, because the suppuration occurs in the connective tissue about the tonsils and very rarely in the tonsils themselves.

Eighth. That in people who possess the disposition to suppuration about the tonsils we find the tonsils either adherent to, or covered by, the pharyngeal pillars, and that this condition plays a more important rôle in the predisposition to suppuration about the tonsil than does the rheumatic or other diathesis.

Ninth. That when a tonsil shows itself competent at

short intervals to become inflamed or to give rise to peritonsillar suppuration, it is in a pathological condition and should be destroyed by the galvano-cautery or by other measures.

125 East Nineteenth Street.

THE NON-OPERATIVE TREATMENT OF DELAYED UNION IN FRACTURES OF THE LEG.[1]

By JOHN RIDLON, M.D.,

Consulting Orthopedic Surgeon to the Transfiguration Clinic. Assistant Surgeon to the Vanderbilt Clinic, New York.

I desire to present to you two patients who have suffered from delayed union of fractured bones of the leg, to ask your inspection of a modification of the caliper splint for the treatment of conditions of this kind, and to call to your attention certain additional means for the non-operative treatment of delayed union in fractures in general, which, though by no means new, are not generally known, and, in so far as I know, not used in this country.

The histories of my two cases are as follows:

Case I.—Thomas C. B——, aged thirty, unmarried, no constitutional disease. On March 22, 1888, while leading a dog across a street, jumped to escape a passing team, was pulled around by the dog and landed obliquely and with a twisting motion on right foot; felt pain and fell to the ground, but sprang up to escape being run over, and made his way to the curb. Was removed in a cab to his home, where it was found that he had sustained a compound fracture of the right tibia somewhat below its middle part. A surgeon of skill and great experience was called at once, the wounds were dressed and the fracture put up in light board splints and a fracture-box. The next day a surgeon of world wide reputation took charge of the case, and the leg was enveloped in a plaster-of-Paris-dressing. This dressing was removed at the end of two or three weeks, when the wound was found to have healed. The plaster splint was renewed from time to time; and on September 17th, he entered Roosevelt Hospital and was operated upon by Dr. Frank Hartley, to whom I am indebted for access to the hospital records, and who subsequently transferred the case to my care. On his admission to the hospital it was recorded that the "motion at fracture is slight." When the seat of fracture had been exposed at the operation, "an oblique fracture of the tibia is found, passing from below upward, with plane looking forward and upward. The interspace between the fractured surfaces of the upper and lower fragments is filled with a thin wedge-shaped piece of fibrous tissue, which was perhaps externally muscular. The divergence, greatest below, did not exceed one-half inch. At the inner edge of the fractured surfaces is a thin line of bony union." The opposing oblique bony surfaces were chiselled, drilled, and wired, and the leg put up in a plaster-of-Paris dressing. He remained in bed thirty-one days, but the union was not solid when he returned home four days later, on October 22d. The plaster splint was continued, and the patient went about the house with crutches.

On December 27th I saw the case in consultation with Dr. Hartley, who then transferred him to my care. On January 10, 1889, the plaster was removed and a supporting steel splint applied. At this time there was distinct antero posterior motion at the point of fracture, and though there was evidently soft union between the fragments, there was no appreciable callus to be felt about the fracture. There was some tenderness on pressure and on motion at the point of fracture. Only moderate constriction was made, as the dependent position after the removal of the plaster sufficed to give abundant œdema. The patient began to go about out of doors at once and visited my office two days later. When I next saw him, at the end of nine weeks, union was perfectly solid and abundant callus could be felt. He informed me that he had continued the use of the crutches for some time; and that he had removed the upper supporting part of the splint at the end of the third week as it was somewhat uncomfortable. The lower portion of the splint, which acted only as a lateral support, he continued to wear for about five months.

The patient recently volunteered the statement that he believes that the delay in union was due to constantly moving the bones at the point of fracture within the plaster splint during the first weeks of the treatment.

Case II.—William D——, aged twenty-two, unmarried, no constitutional disease, presented for treatment at the Vanderbilt Clinic on September 8, 1890, and on the 22d of the same month was transferred to my care. In reply to inquiries as to his early history Dr. William T. Bull writes, under date of November 26th: "The history of William D—— is now in the hands of the binders, but I give you the following from my own remembrance, and that of my house surgeon at the New York Hospital. William D——, aged twenty-two, admitted to New York Hospital May 26, 1890, history of having been run over by a wagon. Examination reveals a compound comminuted fracture of the right leg at the middle and lower thirds. A large lacerated wound anteriorly, through which the bones project. Great displacement. Much contusion and laceration of soft parts. Under ether, loose fragments removed, bones replaced, hemorrhage stopped, thorough drainage at all dependent points. Plaster splint over antiseptic dressing. Rise of temperature necessitated change of dressing at end of forty-eight hours. Volkmann's splint applied for three weeks, then plaster splint with fenestrum and frequent dressings. Wounds gradually closed. Delayed union. Necrosis. Discharged by superintendent of hospital for insubordination August 5, 1890. Had walked on crutches, partly on leg, for three or four weeks before discharge. Some deformity and delayed union on discharge. I am not certain whether all sinuses were closed. Plaster splint on leg on discharge."

When the patient came under my care on September 22d all wounds were healed; no callus could be felt about the point of fracture; there was tenderness on firm pressure, and on motion at the point of fracture; soft union was believed to exist because the fragments could not be displaced, although there was very considerable motion possible in all directions. The plaster splint was discontinued, and the splint shown in the illustrations applied. The splint is nothing more than the caliper splint of Thomas, of Liverpool, so modified as to permit of no motion at the ankle, and with the laced leather sleeve added. The splint is made from three-eighth inch iron wire; the ring in which the patient sits is irregularly ovoid in shape, and follows approximately the outline of the thigh; it is joined by welding to the upright bars at an angle from within outward, and from behind forward, so that the lowest point of the ring comes underneath the tuberosity of the ischium; the angle of the ring with the inner bar from within outward is about one hundred and thirty-five degrees, and from before backward about one hundred and twenty five degrees; the lower ends of the side bars plug into vertical tubes that are joined by a shank which is riveted to the sole of the shoe; a band buckled across the front just above the patella prevents forward bending of the knee; a band below the knee at the garter line surrounds the leg and the outer bar, and furnishes the means by which the circulation is dammed, and is under the control of the patient. The laced leather sleeve may or may not be used. It is a matter of some comfort to the patient, as it prevents the leg from chafing against the side bars, and it possibly acts in some measure to immobilize; but if it is used care should be exercised that it is not sufficiently tight to check the desired œdema. Of course it should be unnecessary to say that the splint

[1] Read before the Orthopedic Section of the New York Academy of Medicine, December 16, 1890.

remains on continuously, and that the shoe is a part of the splint. In this patient, solidification has slowly but steadily increased, and abundant callus has been thrown out.

The patient has been seen only at intervals of from one to two weeks; and motion was not carefully tested

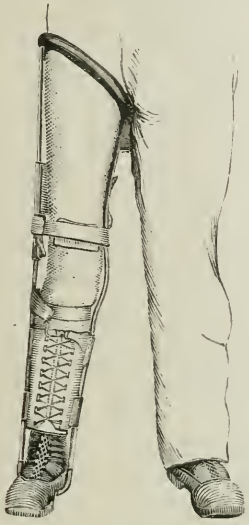


Fig. 1.

till the end of nine weeks, when no motion could be detected and the patient walked across the room without the splint or any support. He felt, however, some sense of weakness and tenderness in the part. After the application of the splint he continued the use of one crutch for a short time only, and he was soon able to walk three or four miles without discomfort, and after eight weeks resumed his laborious work of unloading vessels.

In speaking of delayed union, I do not use the term as synonymous with *non-union*, or *pseudarthrosis*. Neither do I use it in precisely the same limited sense that it is generally used by writers who would place a time limit, more or less movable to be sure, upon the term, and make subjective pain and tenderness play an important part in the diagnosis. A given case cannot rightly be denominated delayed union this week, and non union next; nor delayed union while pain and tenderness exist to-day, and non-union when they are no longer felt on the morrow. The normal union of a fractured bone occupies a pretty definite period, and if union fails to be perfect at the end of that time either delayed union or non-union may be said to exist; but if it be delayed union in the beginning, delayed union it will remain until it has become solid by non-operative treatment; while if it be non-union in the beginning, non-union it will remain until cured by operation. Non-operative treatment has no place in the treatment of cases of true non-union, and we will not further consider that branch of the subject, however interesting it would be to discuss the query as to why union is more readily obtained in cut off than in broken off bone ends. In the same way we believe that operative measures have no place in the treatment of cases of delayed union. For time is not a subject for consideration when weighed in the balance with the risk to life of even an aseptic operation; and no cutting operation should be thought of until every other known means and an abundance of time have been expended.

As orthopedic surgeons more than our rightful share of these unpromising cases will come under our observation. During the past two years I have met with delayed union in two fractures of the leg, two of the shaft of the femur, one of the neck of the femur, and one of the humerus. The two cases of fracture of the leg I have presented to you. It therefore behooves us to take counsel one with another as to what causes these delays in the perfect union of fractured bones, and as to how we can best contend against the evil results that have been wont to follow.

In the works on general surgery, and in those works specially devoted to the consideration of fractures, various causes are laid down for delayed and ununited fractures; but two, however, need detain us, and these only because the present fashion of treating fractures by plaster-of-Paris bandages conduces to the one or the other, namely, constriction of the seat of fracture, or to deficient immobilization. Bandages of plaster-of-Paris are so readily obtained, so easily applied, so wholly safe from interference on the part of the patient, and so comfortable withal that it is not surprising that they have come into general use in the treatment of fractures, especially outside of hospital practice. It appears to the writer, however, that no dressing has ever been devised for the treatment of fractures which so illy accomplishes the end in view, namely, immobilization without undue compression of the part. I would not deny that it is possible to use plaster of-Paris as a dressing for fractures without harm, but I do hold that for its proper use is required a greater skill and experience and a higher grade of intelligence on the part of the surgeon than for any of the other dressings. To swathe a broken limb in plaster-of-Paris and to then trust in God for the result may be evidence of a sublime faith, but it is also frequently evidence of very cowardly surgery.

Plaster-of-Paris when used for fractured bones is applied either before or after swelling has taken place. If applied before, it constricts the seat of fracture, prevents the normal amount of swelling, and literally strangles the life out of the young callus; in a certain number of cases delayed union results. If applied after the swelling has taken place, it becomes loose as soon as the swelling of

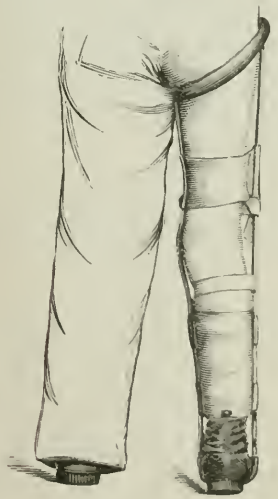


Fig. 2.

the soft parts subsides, motion of the limb in the splint and of the fragments of the fractured bone one upon the other is possible, and again in a certain number of cases delayed union is found when the splint is removed.

The treatment of delayed union in fractured bones I take from that most original and ingenious of surgical thinkers, Hugh Owen Thomas, of Liverpool. It consists in "hammering, damming, depending, and fixing" the

bones involved in the fracture. Thomas first hammered the seat of fracture in March, 1874, with a copper mallet faced with rubber; later he protected the skin with basil leather and used an ordinary carpenter's hammer; he now uses an egg-shaped wooden mallet. The hammering may be done with or without an anæsthetic, but should not be repeated at too frequent intervals. Probably once in two weeks is sufficiently frequent, though more observations on this point are needed. He first used damming in 1876, by means of a tourniquet applied intermittently for a period of ten minutes once each day. Gradually the duration of each *séance* was extended and their frequency increased until, in 1881, we find him employing continuous damming. To what point shall the interference with the circulation be carried is a question that will occur to you. I do not think I err in saying that it should be sufficiently complete to cause abundant œdema, but not enough to cause pain or interfere with the nutrition of the limb. In going over the thirty-nine cases reported by Thomas in 1885 we find a gradual diminution in the frequency and severity of the hammerings and an increased reliance upon damming, until now we find him damming all and percussing some.

The advantage of making the limb dependent has long been recognized and need not be dwelt upon here.

To properly immobilize the fracture is probably the most important of all; certainly none, except damming, at all approach it in importance. Delayed union may often be made solid by hammering, damming, and depending without any fixation at all; but if fixation be employed improperly, that is, so as to circumferentially constrict the fractured point, all the percussing and damming in the world will not be of avail. To properly fix a limb the bones must be held by a grasp which does not circumferentially constrict the seat of fracture, and the muscles covering the part must be lulled to rest by continuous fixed traction, and not nagged by an elastic or an intermittent traction; further, the joints which it is the function of these muscles to move must be absolutely locked. When a fracture exists in the bones of the leg, as in the cases reported, the knee and ankle must both be locked. The splint of Dr. H. H. Smith, of Philadelphia, figured in most of our works on fractures, is open to the objection that it immobilizes neither knee nor ankle, and the caliper splint of Thomas is open to half that objection, in that it allows motion at the ankle. This fault I have endeavored to obviate in the splint which I have presented to you.

337 West Fifty-seventh Street.

A CASE OF CHRONIC ABSCESS OF THE ABDOMINAL WALL, SIMULATING MALIGNANT INTRA-PERITONEAL TUMOR.[1]

By H. C. COE, M.D.,

NEW YORK.

On March 8th I saw, with Dr. Walter Mendelson, Mrs. P——, aged sixty, whose health had been poor for several years, being consulted with reference to an abdominal tumor, which had been discovered a month before by Dr. Partridge in the New York Hospital, where she was under his care for acute lobar pneumonia. So far as I could learn, the mass then appeared to be intra-peritoneal. It had increased in size quite rapidly, and had grown outward, so as to form a projection above and to the left of the symphysis pubis, and had become quite painful. On examination I found a neoplasm, which I estimated to be as large as a cocoa-nut, occupying the left hypogastric region and extending over into the left iliac. Its attachment was deep, but it involved the skin, forming a projection in the latter the size of a small lemon. The skin over the nodule was somewhat reddened, but I could detect no fluctuation. Temperature and pulse normal. The patient presented a fairly marked cachexia, and struck me as being a most unfavorable subject for an operation. I regarded the tumor as probably malignant, and inferred that it had originated in the peritoneum and extended outward, as I had observed in other cases. Examination per vaginam showed that it was not connected with the pelvic organs. By my advice she was sent to the Cancer Hospital, where she was kept under careful observation for several days. Soon after entrance she began to have a slight evening rise of temperature (100° to 100.5° F.), and obscure fluctuation could be felt in the superficial nodule. She had little, if any, local pain. The patient's general condition was bad; her heart was weak, and her urine contained albumin and casts. She was anxious to have something done, and, though neither my colleagues nor myself were able to determine positively whether the tumor was of intra-abdominal origin, or was purely mural, it seemed to be justifiable to at least explore and evacuate any pus which might be present. The prognosis in any case was bad.

With the patient under chloroform anæsthesia, and assisted by Dr. Shrady, I made an incision to the outer side of the mass, and found that the superficial nodule was an old, thick-walled pus cavity, which contained about half an ounce of pus. This was freely incised, washed out, and explored; it seemed to be simply subcutaneous, its floor resting upon the main mass of the tumor. While palpating the floor my finger entered a second cavity, having no apparent connection with the first, which contained at least six ounces of pus. As soon as the latter was evacuated the hemorrhage from the walls of the sac became so free that I extended my incision and excised all the superficial mass, in order to expose the cavity. Its floor was formed by the abdominal muscles, and its lateral walls were of cartilaginous consistence. It was the opinion of all who were present that the condition was probably sarcoma originating in the muscle or its sheath. At this stage in the operation the patient collapsed, and was with difficulty kept alive until I had finished. I removed as much of the diseased tissue as possible, dissecting down, outside of the peritoneum, into the iliac fossa, where it was firmly attached, packed the cavity with iodoform gauze (the hemorrhage had ceased), and put the patient in bed. She did not rally, her kidneys absolutely refused to act, and she died thirty six hours later.

The specimen was examined by Dr. George C. Freeborn, the pathologist, who reported as follows: "The growth was received in two parts. The external portion is covered with skin and a thick layer of fat, there being a subsequent layer of soft reddish tissue, averaging 3 mm. in thickness; the internal portion averages 1½ ctm. in thickness, and is composed of two layers; an inner, dense and white in color; and an outer, soft, reddish, and with an irregular nodulated surface. Microscopically the external or cutaneous portion presents a layer of connective tissue infiltrated with pus-cells, and a layer of granulation tissue œdematous and necrotic in spots. The internal portion consists of a wide band of dense connective tissue, along the internal edge of which are a few degenerated striated muscle-fibres; scattered through this layer are several necrotic areas. The reddish sub-layer shows the same structure as in the external portion of the growth. Diagnosis, chronic abscess." The autopsy showed fatty degeneration of the heart, with disease of the mitral valves, old general pleuritic adhesions, and chronic diffuse nephritis. There was also chronic cystitis, the bladder containing a quantity of muco-pus. The abscess was entirely mural, but just where or how it originated was not clear. The interesting points were:

1. Diagnosis. How could one tell what the nature of the tumor was, and if it was not originally intra-peritoneal? It is common to have malignant tumors extend through the abdominal wall and involve the skin. Even though it showed signs of suppuration, it seemed to be malignant. In a recent doubtful case of chronic abscess at the upper edge of the breast, in which I amputated the entire mamma simply on suspicion, the tumor proved to

[1] Read at a meeting of the New York Clinical Society, May 30, 1890.

be a carcinomatous nodule that had undergone suppuration.

2. The two abscesses, apparently distinct. There was no indication of the deeper, and few or no symptoms except those due to the superficial one.

3. Advisability of making an incision below the growth and parallel with Poupart's ligament, instead of an exploratory laparotomy, as was suggested to me.

4. Difficulty of making out the relations of the mass, and the close resemblance to an extra-peritoneal sarcoma, growing from the muscle.

A FARTHER STUDY OF ANODAL DIFFUSION AS A THERAPEUTIC AGENT.[1]

By FREDERICK PETERSON, M.D.,

ATTENDING PHYSICIAN TO THE NEW YORK HOSPITAL FOR NERVOUS DISEASES.

In a paper read before the Section on Theory and Practice of the New York Academy of Medicine in February, 1889, I called attention to the therapeutic value of the cataphoretic power of electricity, to which power I gave the name anodal diffusion.[2] The ability of a galvanic current, in flowing from the positive to the negative pole, to seemingly carry substances with it even through a membrane, or through the skin, has been affirmed by some, but even to this day denied by other authorities.

Dr. B. W. Richardson first drew attention to what he termed voltaic narcotism in two articles in the *Medical Times and Gazette* in 1859. He produced local anæsthesia with solutions of morphia, aconite, and chloroform; but the storm of opposition aroused over Europe made him subsequently abandon what was an actual discovery.

H. Munk killed rabbits by placing a solution of strychnia upon the anode and applying it to the skin of the animals for a few minutes with moderate currents. Quinine and potassium iodide had also many years ago been experimentally introduced by cataphoresis and quickly detected in the urine.[3]

Nothing further was published until 1886, when Wagner[4] printed a short note expressing a belief that anæsthesia might be produced by the use of cocaine on the anode. He made no experiments.

In the same year Adamkiewicz[5] introduced his diffusion electrode and described his experiments and successes with chloroform in the production of anæsthesia and the relief of pain.

The conclusions of Adamkiewicz were attacked by Paschkis and Wagner,[6] who claimed that the contact of the chloroform with the skin was sufficient to produce the anæsthesia, and that the galvanic current had nothing to do with it, for the resistance of chloroform was so great that it could not conduct at all.

Lumbroso and Matteini[7] employed chloroform the same year with ordinary electrodes for the relief of neuralgia.

Dr. Corning,[8] of this city, produced anæsthesia with a five per cent. solution of cocaine on the anode after pricking the skin with needles. This was also in 1886.

Dr. Reynolds,[9] of Chicago, published in 1887 an article upon the use of cocaine in two to twenty per cent. solutions with the anode in his dermatological practice for small cutaneous operations, and for the electrolysis of hair roots. He also used voltaic narcotism in one case of tooth-extraction as had been done by Richardson just thirty years before. Owing to the publication of Dr. Reynolds's paper in the journal mentioned, it escaped my notice altogether, and was not included in the list of authorities given in my first paper. I am under obligation to Dr. R. H. M. Dawbarn for kindly calling my attention to it. Although Wagner and Corning had separately written about cocaine cataphoresis before Reynolds, they had not given it as great practical application as the latter.

When I took up the subject of anodal diffusion in the winter of 1888 and 1889, the bulk of information at my command was limited and uncertain. There was so much controversy on every point, so much diversity of opinion, that even the existence of the cataphoretic power of electricity seemed to be as yet not scientifically proven. I therefore made some hundred experiments upon myself and patients, the most important of which were detailed in my first paper already referred to.

The results of previous experiments may be summed up as follows:

The current alone does not produce anæsthesia at either pole, although the anode has a transitory soothing effect over painful foci.

A watery solution of cocaine applied to the skin is not absorbed, does not produce anæsthesia, except perhaps after an indefinitely long period. The same is true of chloroform, and of an alcoholic solution of aconitia.

A watery solution of cocaine is diffused through the skin and subcutaneous tissues by the anode, but not by the cathode. This is true of chloroform, aconitia, strychnia, potassium iodide, corrosive sublimate, tincture of iodine, and other medicaments.

The anæsthesia produced by a ten to twenty per cent. solution of cocaine on the anode is sufficient for small operations, and affords distinct relief for from four to eleven hours in cases of severe neuralgias in superficial nerves, and without constitutional effects.

The Adamkiewicz electrode is absolutely worthless, since it is so stupidly constructed that the current does not pass through the fluid contained within it, but through its circular metallic rim.

Chloroform, recommended by Adamkiewicz, and by Lumbroso and Matteini, should only be used for cataphoretic purposes when, in addition to producing a local anæsthesia, it is desired to counter-irritate, for it causes a disagreeable dermatitis of a week's duration, as I have had reason to learn by experiment upon myself. It does induce a deep analgesia beneath the anode, but it also vesicates.

Up to February, 1889, I had employed anodal diffusion of solutions of cocaine and aconitia, separately or mingled, in two severe cases of chronic supraorbital neuralgia selected for me as crucial tests by Dr. Seguin; in one case of double trigeminal neuralgia; in one case of inferior maxillary neuralgia; in one case of locomotor ataxia for the relief of dorsal neuralgic pains. The success of the measure in all of these cases was undisputed. It gave hours of relief from excruciating pain and without constitutional effects of any kind. Nothing was claimed for it as a curative procedure, but it certainly proved to be a more than efficient substitute in these cases for morphine, which, as we too well know, is so prone to exact for its hours of solace lifetimes of wreck and ruin.

Since the publication of my paper other articles which serve to show the growing recognition of the value of the method have emanated from various sources. Dr. Cagney,[1] of London, reported his experience in the use of cataphoresis before the Harveian Society, November 7, 1889. He employed iodine and a saturated solution of potassium iodide with the anode for labyrinthine deafness, lead palsy, small tumors of the skin and mucous membranes; for syphilitic and other throat affections; for chronic pharyngitis; for nodes and gummata, tubercular ulcers, mucous patches and papular syphilides; for indolent ulcers, lupus, acute and strumous glands. In the discussion upon Dr. Cagney's paper, Mr. Juler stated that he had found the method useful in tobacco amblyopia.

[1] Read before the Northwestern Medical and Surgical Society of New York, December 17, 1890.

[2] New York Medical Journal, April 27, 1889.

[3] Landois and Sterling's Physiology, page 489.

[4] Wien. Med. Presse, 1886, page 212.

[5] Neurolog. Centralb., vol. v., pp. 219-497.

[6] Ibid., vol. v., page 413.

[7] Sulla cataforesi elettrica. La riforma medica, July and November, 1886.

[8] New York Medical Journal, November 6, 1886.

[9] Journal of the American Medical Association, August 20, 1887.

[1] British Medical Journal, November 16, 1889.

In the same month, Drs. Gärtner and Ehrmann [1] made a communication to the Imperial-Royal Society of Physicians, of Vienna, in reference to the cataphoretic use of corrosive sublimate. Dr. Gärtner's electric bath-tub was employed, from 4 to 6 gms. of mercuric bichloride being dissolved in the water of the bath. A current strength of 100 milliampères was passed through the person experimented upon for fifteen or twenty minutes, and subsequently mercury was found in the urine in as large a quantity as 1.3 milligr. There were traces of the metal in the urine for from four to six days after the bath.

Some time ago Boccolari and Manzieri [2] announced their intention to study the effects of electric cataphoresis in connection with mineral baths, but I have been able to find no published record of the results of their studies in this direction. They have published, however, their use of anodal diffusion of drugs in parasitic affections of hair roots.

Woodbury [3] described in May, 1890, his successful employment of the anode with a solution of iodide of lithium in a case with a syphilitic cutaneous neoplasm.

Shoemaker [4] has also written upon the uses of cataphoresis in certain skin diseases.

Dr. A. Barth [5] describes cocaine cataphoresis as employed by him in a number of operations upon the tympanum and external auditory meatus, finding a ten per cent. solution on cotton connected with the anode very successful.

At the International Congress held at Berlin in August 1890, Dr. Bayles, of Orange, N. J., read a communication from Mr. Edison, the inventor, upon the medical employment of cataphoresis. The transactions of the Congress not yet having been published, I am indebted to my friend, Mr. A. E. Kennelly, Chief Electrician of the Edison Laboratory, for the following brief synopsis of Mr. Edison's experiments:

"The first trials were purely physical. With a current of twenty milliampères, lithium chloride was forced through a septum of animal membrane by electrical endosmose.

"The second series of trials was upon the person of a healthy young laborer, who dipped one hand in a solution of common salt, and the other in a five per cent. solution of lithium chloride in water, for two hours daily for ten days. His urine examined before the test showed no more than mere traces of lithium. His urine collected during that period exhibited distinct presence of lithium —five milliampères.

"The third trial was upon the person of an old man, suffering from acute and chronic uric-acid concretions. He was in an advanced stage of the ailment, and most of his joints were affected; the joints between the phalanges were almost obliterated. He immersed one hand in lithium chloride solution, the other in common salt solution, while a current from the one hundred and twenty volt electric-light circuit was employed through resistance to pass through his body. Measurements of the hand in the lithium chloride solution showed, after some twenty-five hours of total application, a distinct reduction of bulk. There was also considerable relief from pain, and the general condition of the patient was ameliorated. The current strength in his case was twenty milliampères (four times more than the previous healthy subject could stand with convenience)."

Mr. Kennelly also calls my attention to a pretty experiment recently described by Dr. Ehrmann to demonstrate the cataphoretic power of the anode:

Take two similar glass vessels, with zinc electrodes at the bottom, and filled with a very weak solution of methyl blue. Insert the hands, one in each, and cause ten to twenty milliampères to pass for five to ten minutes. The hand in the anode vessel will be covered with blue spots.

The earlier criticisms of medical men that there was no such thing as the anodal diffusion of drugs, must, in the face of such accumulating evidence, be entirely silenced. It is only one and a half years ago since, in the discussion of my paper, some who took part manifested entire incredulity. The far more vital criticism, however, that accuracy of dosage was impossible by this method of medication, has been until now unanswered. The hollow electrode of Munk with clay bottom, of Adamkiewicz with carbon bottom, and of myself with a membranous bottom, each has failed to determine properly the quantity of the medicament employed. But this is now no longer a valid argument against anodal diffusion, since by the means I have of late employed, exact dosage is simplicity itself.[1] It is only essential to possess a flat metal electrode, preferably but not necessarily of platinum (platinum is now almost as costly as gold), or tin. A nickel-plated surface will answer. This may be made of any size, round or square, convex or concave. A piece of tissue or filtering paper or linen is cut to fit over the metal surface. Upon it is placed, drop by drop, the solution of any drug to be used, and the electrode is then applied to the skin. There is then a thin capillary layer of the medicament in the paper disk between the electrode and the skin, and the quantity of the drug is known. The electrode made for me by Messrs. White and Bartlett, of this city, is round, flat, two or three centimetres in diameter, and is provided with a narrow, soft rubber rim at its edge, which, by its close approximation to the skin, prevents any loss of the solution by evaporation. In order to have drugs ready for use at any time, disks of paper to fit the electrode may be charged with aqueous or alcoholic solutions, and then allowed to dry, a drop or two of menstruum being added when they are to be used. Otto Boeddiker, pharmacist, 954 Sixth Avenue, of this city, is prepared to furnish anyone with medicated cataphoretic disks to fit the electrode, and has made for me satisfactory disks of menthol, cocaine, helleborin, strychnine, iodol, corrosive sublimate, aconitine, potassium iodide, imidosuccinate of mercury, and the chloride and benzoate of lithium.

As regards the current strength to be employed one must be guided by the patient's feelings. Anywhere from 5 to 20 milliampères may be used for from five to fifteen minutes. The stronger the current the shorter the duration of the séance. If one has no galvanometer he may use ten to thirty or more cells of any battery, Grenet, Lèclanchè, or chloride of silver.

Anodal Diffusion of Drugs.—The indications for the application of the method of anodal diffusion of drugs may be summarized as follows:

To Produce Local Anæsthesia for Neuralgias, Superficial Pains, and Cutaneous Operations.—With an additional experience of nearly two years in the frequent treatment of neuralgias of superficial nerves with ten to twenty per cent. solution of cocaine on the anode, I can only reiterate my conviction that it is the best means we have for relief of the pain without constitutional effects.

I have had no experience of the method in surgery, but I quote the following from a letter received from Dr. R. H. M. Dawbarn, June 10, 1889, which will merely serve as an instance of the successful employment of voltaic narcotism in a small operation:

"I have recently, since reading your article, tried this method upon a child's hand, requiring suture of a severed tendon. The injury was an old one, and there was no wound before I made my incision. The anæsthesia from ten per cent. cocaine upon the anode, continued with my chloride of silver battery (twelve cells) for ten minutes, was very satisfactory."

I have experimented with other local anæsthetics. Aconitia produces a deep analgesia, but it is accompanied with severe smarting around the edges of the anæsthe-

[1] Wiener Med. Blätter, November 28, 1889.
[2] Internat. Klin. Rundschau, September 2, 1888.
[3] Philadelphia Medical News, June 21, 1890.
[4] Sajous' Annual, 1890.
[5] New York Archives of Otology, April-July, 1890, New York, pp. 100–101.

[1] New York Medical Journal, November 15, 1890.

tized area. A combination of cocaine with the aconitia prevents this hyperæsthesia. I was led by a note on helleborin[1] in a medical journal to make use of this alkaloid as a local anæsthetic. Three or four drops of a one per cent. solution of helleborin on the anode have brought about much more gratifying results than cocaine, a deeper and more lasting anæsthesia, and I have never noted constitutional effects. The latter need not be feared now that dosage has become accurate. At the same time I should advise caution in the employment of so powerful an alkaloid.

Both onabain and strophanthin[2] (Arnaud's, not Merck's) are strong local anæsthetics, and may be used with the anode in doses of $\frac{1}{250}$ of a grain or more. One or two drops of chloroform on a tissue-paper disk placed upon the anode will bring about a deep analgesia in a very short time, but will be followed later by vesication. When it is desirable to first anæsthetize and then counter-irritate, chloroform cataphoresis may be advisable, and will prove useful in some neuralgias.

A mild solution of carbolic acid may also be employed as a local anæsthetic and analgesic.

For Topical Medication in various Local Lesions, such as Tumors, Rheumatic, Gouty, and other Swellings, various Skin Diseases, Syphilides, etc.—For such cutaneous disorders as are commonly treated by painting with iodine, the use of some of the iodine preparations, such as potassium, sodium, or lithium iodide, iodol, or diluted tincture of iodine upon the anode is indicated.

For rheumatic and gouty swellings, solutions of the chloride, benzoate, or citrate of lithium, all very soluble salts, should be employed with the anode. Among mercurial remedies the imidosuccinate and bichloride of mercury are well adapted for cataphoretic purposes.

The rhinologist and laryngologist will find the method particularly adapted to the treatment of many difficulties of the upper air-passages which may require the application of anæsthetics, astringents, or antiseptics.

For Electro-cataphoretic Baths for General Purposes.—There would seem to be considerable usefulness in the method as applied to mineral baths. Although Gärtner has been at great pains to invent a particular kind of bath-tub with two compartments for electrical purposes, it is not essential to have any such arrangement. By making an ordinary bath the anode, the hands may close the circuit by grasping a cathode suspended just above the bath. Thus almost the whole surface of the body may be subjected to the anodal diffusion of the therapeutic agent dissolved in the bath. Outside of tonic, stimulating, and alterative, such as are found at health resorts, cataphoretic baths of iodide of potash might prove useful in cases of lead poisoning, etc.

The Use of Cataphoresis for Diagnostic Purposes.—In the discussion which followed the reading of my first paper upon this subject, Dr. Starr called attention to the possible usefulness of cocaine cataphoresis in diagnosis. Thus, if a pain were complained of, for instance, in some part of the trigeminus, it should disappear under this treatment. If it did not, the lesion could be localized further back, or it might lead to the conclusion that it was a hysterical pain. I had myself an interesting example of its usefulness for this purpose some time ago. I was called in consultation to see a lady who had been suffering for months with a rather superficial but excruciating pain in the knee following slight trauma. The knee was swollen from blistering, the limb was rigid, the patient sleepless from pain, and anxious to have the leg amputated. The spot upon which I placed the anode with cocaine was so hyperæsthetic that the slightest touch made her wince with pain. Her eyes being closed, I stuck a pin in the part after a few minutes, which she did not notice. When she opened her eyes, the electrode having been removed, I touched the anæsthetic part with my finger, and she winced with pain the same as before. Although the limb was, I believe, subsequently amputated, my diagnosis of a hysterical knee-joint was amply corroborated by microscopical examination.

In view of all the facts which I have adduced in this brief paper, there can be no doubt that the anodal diffusion of drugs is destined to far wider application than it has as yet enjoyed, and that the general practitioner and the specialist alike will find the procedure increasingly useful as a practical therapeutic measure. To close with a quotation from an editorial in the *New York Medical Journal*, December 28, 1889, it is a method that "opens a way not otherwise attainable for influencing tissue metabolism and for changing morbid nutritive processes by sending the drugs into direct and immediate contact with diseased parts through a force which in itself must greatly enhance their active medicinal properties."

[1] Venturini and Gasparini. Brit. Med. Journ., August 4, 1888.
[2] Fortschritte der Medicine, February 1, 1890.

HYSTERO-NEUROSIS AND MELANCHOLIA CURED BY TRACHELORRHAPHY.

By FRANK CHURCHILL, M.D.,
NEW YORK.

The patient, Mrs. B——, twenty-eight years of age, has been married six years; has had no miscarriage, and but one child, born June, 1888, by instrumental delivery. She was well and strong two weeks after confinement, and continued so till September, 1889, when she weaned the baby. Then, as usual, the menses began to appear, and she began to have sleepless nights; after a few weeks she slept little or none at night, being nervous and wakeful. She continued in this condition all winter, gradually losing health and strength, and yet was able to do most of her housework till the following April, when she began to neglect her housework and the care of her baby, and became absent-minded, silent, and despondent.

About May 1st she received a telegram announcing the death of a friend by suicide. This sudden and awful news caused severe mental shock, and produced such alarming increase of her symptoms that a physician was at once consulted.

From this time on she became more gloomy and despondent, neglected her housework entirely, and had constant headache.

She was afraid to be alone, yet would sit silent, staring vacantly, in the presence of her friends. At times she would break out fiercely, saying, "You stop talking about that!" The subject of conversation would be changed and she would lapse into silence again. Questions repeatedly asked would finally elicit a nod or shake of the head, and occasionally a monosyllabic answer.

She was under constant medical treatment from May to August, but her condition remained much the same. When she was brought to me, August 5th, she was clearly a victim of melancholia. She had delusions of sight and hearing; the common sights of the streets and every-day topics of conversation would conjure up visions and thoughts that distressed her greatly.

She also had hallucinations; "people were troubling her all the time," and she "felt something urging her to do this and that, like killing her baby."

After making a careful physical examination, the only lesion I could find was a bilateral laceration of the cervix. I told her husband that her condition might be due to the laceration; that I would first endeavor to restore her health by medicinal treatment and if that failed I would operate.

Sulphonal restored her sleep perfectly, a few simple remedies improved her appetite and regulated her bowels, so that by the first of September she had gained flesh and strength, and said she felt strong and well so far as her body was concerned, but had the same trouble with her mind. Her friends assured me that her mental condition and actions were just the same.

After seven weeks of this improved physical condition,

the mental condition being still the same, I operated, October 16th.

The third day after the operation, when she had rallied a little, it was evident that a mental change was taking place, and at the end of a week her sister, who is a nurse, and who was in constant attendance, said: "Why, doctor, her mind is all right now, there is a complete change," which was quite true. She made a good recovery, and is now perfectly sane.

In conclusion, the following facts are significant: She was perfectly well until the uterus took up again its function of menstruation, and her sickness dates from that time.

Her condition remained the same in spite of medication till the lacerated cervix was repaired, and her recovery dates from the day of the operation.

I believe that the irritation of the lacerated cervix, which, while menstruation was in abeyance, was nil, became, when that function was re-established, the *fons et origo* of her maladies.

Clinical Department.

PRACTICAL NOTES ON THE PROPHYLAXIS AND TREATMENT OF DIPHTHERIA.

By F. H. PECK, M.D.,

CLINTON, N. Y.

The perusal of Professor Löffler's *résumé* on the prophylaxis of diphtheria, in the Medical Record of December 13th, leads me to supplement it with a description of a method of immediate prophylaxis for the benefit of those already exposed to the contagion, and where isolation is impracticable; with a brief account of a treatment which I have found very efficacious for the cure of the disease.

During the past winter I attended fifty-two cases of diphtheria. The type of the disease was very malignant, and as but three of my cases terminated fatally, I subjoin my method of local antiseptic treatment, in the hope it may be of use to the profession.

On being called to a case of diphtheria, besides insisting on the enforcement of ordinary sanitary rules—including the isolation of the patient—where practicable, I direct all persons who have been exposed to the contagion to use four times in each twenty-four hours a one per cent. solution of creolin as a gargle. In the case of infants too young to gargle, I advise the use of the solution with a swab, or as a spray. Most of my cases have occurred among the poorer class, where isolation was impossible; but though the unaffected children spent most of their time in the same room with those who were ill, I have never had a second case develop in a family where the above measures were carried out.

In my early treatment of the disease, I employed the method advocated by Oatman, of Nyack, in the *Annual of the Universal Medical Sciences*, of 1888; but I found the solution of mercuric bichloride advised by him (1 to 3840) inadequate to destroy the exudation, and my three fatal cases occurred before I had gained sufficient temerity to use the strong solutions I have since employed with invariable success.

The solutions I now use are of corrosive sublimate, varying in strength from 1 to 100 to 1 to 50, according to the age of the patient and the necessities of the case. With young children, and in mild cases of the disease, I use the weaker solution, and in every case, as the exudate disappears, I decrease the strength of the solution. This solution I label "Poison," and direct to be used as follows: Make swabs by wrapping a small tuft of absorbent cotton tightly about the small end of a tapering stick of wood, one-eighth of an inch in diameter at small end, and six or seven inches long. The cotton-wrapped part of the swab should not exceed one-quarter of an inch in diameter. Saturate the swab with the bichloride solution, and rub thoroughly over all exudation on tonsils and pharynx, making firm pressure, and giving a rotary or twisting motion to the swab to facilitate the removal of the exudate. Repeat the operation every two hours, day and night, in severe, and every four hours in mild, cases. Burn the swab immediately after using, and employ a new one for every fresh application.

When the exudation invades the nasal passages I direct them to be douched every four hours with a one per cent. solution of creolin. Internally I use iron, stimulants, etc., as the symptoms may require. I claim for this method of treatment: 1. Its efficacy. The majority of cases show marked improvement within twenty-four hours, and are convalescent within a week. 2. Its freedom from danger. I have never seen an instance of intestinal disturbance or stomatitis among my cases. Constipation, requiring occasional laxatives, has been the rule, and if the swabs be tightly wrapped and made sufficiently small, they will not absorb to exceed three or four minims of the solution, and will retain most of that after swabbing. 3. Its simplicity. In but one of my cases have the services of a trained nurse been available, and members of the family have, after instruction, put the method in execution. 4. This method combines the advantages of the local and internal use of the bichloride, as a small amount of the solution must necessarily be absorbed at each application.

IMPERFORATE HYMEN.

By FREDERICK H. WIGGIN, M.D.,

NEW YORK.

The following case appears to be of interest, taken in connection with the recent reports of similar cases in the Medical Record. On August 11, 1888, I was called to see a girl, J. C——, fifteen years of age, whom I found in great pain, and who gave the following history:

For the previous year about every four weeks she had had more or less pain in the pelvic region (her mother stated that she had never menstruated), but during the intervals she had been perfectly well. The pains had gradually increased in severity and duration till, for several weeks previous to my having been called, they had been constant, and for some time she had been unable to sit down.

On examination a small tumor was found in the hypogastric region and on attempting to make a vaginal examination I found a fluctuating tumor projecting from the vulva about the size of an orange, and of course there was no opening in the hymen.

On making an incision three pints of dark, thick, odorless blood was evacuated. The patient did not have any pain during the contraction of the uterus. I washed out the vagina with a 1 to 4,000 bichloride solution. Although I requested her mother to keep her in bed till I saw her the following day, when I arrived I found her at work. Her temperature and pulse were normal and she had no further trouble.

Hyperalimentation in Acute Delirium.—Dr. G. Guicciardi has obtained in the treatment of acute delirium less unfavorable results than one usually observes in this disease. He only lost (out of eleven cases) four by death, while five completely recovered, and two became weak-minded. The treatment adopted by him consisted in isolation, removal of all sources of irritation, protracted lukewarm baths, with the simultaneous application of ice-bladders to the head, and a few leeches to the mastoid process, as well as in revulsion to the intestine and ergotine injections. But he places a still greater emphasis upon the richest possible feeding, and indeed by methodic feeding, by means of the sound, every three to four hours with ten ounces of the most nourishing fluid food.

Progress of Medical Science.

Euphorine.—Dr. Sansoni has made a number of observations on the action of euphorine in disease. Professor Giacoso has given this name to phenyl-urethan,

$$CO\begin{matrix}OC_2H_5\\NH(C_6H_5)\end{matrix},$$

a new substance derived from aniline. It is a white, crystalline powder, with faint aromatic odor and slight taste, almost insoluble in water, but quite soluble in weak alcohol. Sansoni first tested the antipyretic effect of euphorine. In fever due to a large number of causes the temperature fell quickly within an hour; the fall reached its maximum usually in three hours, and lasted for five to seven hours, but sometimes not so long, and at other times longer. The subsequent rise of temperature was usually sudden and accompanied by rigors. Its antipyretic action is often greater in certain individuals than in others, and hence it is advisable to begin with small doses. Doses of fifteen to twenty grains in twenty-four hours can generally be taken without bad results. It is best to begin with a dose of three grains. In rheumatism, fifteen to thirty grains daily caused disappearance of the pain, swelling, and fever. In chronic cases the good results were slight. In a few cases euphorine acted well as an analgesic, but on the whole the success must be considered small. In chronic ulcers and in ophthalmia the powder proved itself a better antiseptic than any other which the author had tried. On the whole, as an antipyretic, antirheumatic, and analgesic, euphorine seems to be inferior to many older remedies of the same nature, and unless future experience bears out the high character given to it by Sansoni as an antipyretic, there is little likelihood of its ever becoming a useful drug.—*The British Medical Journal.*

The disease is tedious in its course, but the patients ultimately recover.

In the matter of treatment it was found that most of the patients were over-fed, and that a plain and liberal, but not excessive, diet was indicated. Locally, glycerine of borax with oxychloride of bismuth and morphine may be brushed over the whole throat three or four times daily, or instead of morphine, cocaine may be used; but in this case great care must be taken.

Internally, quinine, iron, arsenic, zinc, and belladonna, are recommended.

The disease which Dr. Clark describes belongs to the class known by French writers under the name of convulsive tic, and called sometimes also a form of chronic chorea. Cases of this kind have been seen and described by American writers.

RHEUMATIC ARTHRITIS AND RHEUMATOID ARTHRITIS.

We follow with much interest the attempts of clinicians and pathologists to show the difference between chronic rheumatic arthritis and rheumatoid arthritis. The conspicuous failures of the past do not discourage writers, and have not in particularly discouraged Mr. Hugh Lane, of Bath, England, who publishes a monograph entitled "Differentiation in the Rheumatic Diseases." Mr. Lane's present brochure is condensed from a work by himself and Mr. Charles T. Griffiths on the same subject, which work is h[illegible]

studied the former type among children of the age of from eleven to sixteen months (*The Lancet*). A great many of the patients had been brought up on the bottle, having been fed on unsuitable food, causing distention of the abdomen or stomach, or occasionally enlargement of the liver, or intestinal disorders, accompanied by vomiting or diarrhœa. He believes this special form of albuminuria to be of an infectious character, and traces it back pathogenetically to certain toxic substances which are generated by abnormal fermentation in the bowels. These substances are absorbed by the bowels and pass to some extent into the kidneys. They produce congestion in the renal tissue, which may lead to inflammation of the kidneys. One of Dr. Seyournet's little patients had scarlet fever twenty-two days after convalescence from this albuminuria. It is evident from this fact that it was not scarlatinal albuminuria. It was usually accompanied by anuria, whereby the congested condition of the kidneys was intensified. With some of the patients the daily evacuation of urine was only half an ounce. In one case the patient passed no urine for more than forty-eight hours. Notwithstanding this, no uræmic symptoms appeared. It was in most cases only the anuria which led to the urine being examined for albumin. The result of the examination in each case was positive. A strongly marked feature of this disease is the œdema of the feet, sometimes also of the hands and of the eyelids and face, but the latter were not always affected. The quantity of albumin varied from a drachm to ten drachms per diem. The duration of the disease was from two to four weeks. The treatment consisted in giving milk, which in some cases was mixed with lime-water. Where there was vomiting, gentle aperients, such as castor oil or calomel, were given; salicylate of bismuth was employed in order to disinfect the bowels as much as possible. Systematic massage of the lumbar regions was also employed in order to relieve the congestion of the kidneys.

Pes Planus.—Mr. A. G. Miller, one of the surgeons at the Royal Infirmary, Edinburgh, emphasizes the point of differential diagnosis between pes planus and talipes valgus. His contention is certainly a correct one. In the early stage of flat-foot pes planus is alone present; while in the latter, or pronounced condition, talipes valgus results of necessity from the subsidence of the inner side of the foot, and the consequent inability of the ball of the great toe to play its part as the inner support of the superimposed weight of the body. Again, Mr. Miller draws attention to the fact that genu valgum and flat-foot are by no means constantly associated. In proof of this we have recently seen a marked case of genu valgum (so bad as to require a double osteotomy) where the patient's foot was actually in the position of varus; and the boots were notably worn down at the outer edge of both soles and uppers. We demur to the use of the words supination and pronation as applied to foot movements.

Mr. Miller's meaning is more easily caught by speaking of the inversion or eversion of the sole. His reiteration of the value of the wedge-shaped sole (advocated by Professor Miller in 1846) is worthy of note; for its utility is demonstrated both by the anatomical adjustment of the astragalus and by the evidence that many people suffering from commencing flat-foot find relief by voluntarily adopting it as a means for the relief of pain. The treatments also suggested by rest, massage, tonics, and regulated exercise are excellent. As yet Mr. Miller has not had occasion to perform any cutting operation for the relief of flat-foot. We have seen at one of the London hospitals intractable cases treated by osteotomy. The impression formed by observation of these cases was that certain aggravated types of flat foot do occur which have resisted all other modes of treatment, and that the results gained by a free resection of the tarsal bones have been satisfactory to the sufferers by restoring symmetry to the foot, and by the complete relief from constant and intolerable pain on walking.—*The Lancet.*

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & Co., Nos. 56 and 58 Lafayette Place.

New York, January 31, 1891.

IMPURE DRUGS.

THE last report of the New York State Board of Health shows that, while the sale of impure drugs is decreasing, it is yet lamentably large. During the year 1889, 807 samples of drugs were bought in the larger towns and cities of the State (excepting New York and Brooklyn) and subjected to analysis. The results are startling. Only 410 samples (50.8 per cent.) were up to the pharmacopœial standard, while 330 of the samples (40.8 per cent.) were totally deficient, by being either falsified, adulterated, decomposed, too strong, or too weak. The remaining 67 samples were of "fair quality." In some details the results of the analysis were as follows: Dilute acetic acid, 40 samples examined; 9 good, 6 fair, 19 inferior, and 6 of excessive strength; this is of unusual importance because of its use in the manufacture of spirits of mindererus. Dilute nitric acid, 4 samples: 1 good, 3 excessive strength. Dilute sulphuric acid, 53 samples: 9 excessive strength. Hydrobromic acid, 38 samples: 6 inferior and 6 excessive strength. Saffron, 20 samples: 2 good, 1 fair, 17 inferior. Compound spirits of ether (Hoffman's anodyne), 47 samples: 4 good, 4 fair, and 39 inferior. Stronger ether, 66 samples: 40 good, 4 fair, and 22 inferior. Precipitated sulphur, 25 samples: 6 good, 2 inferior, and 17 inferior. Besides these, inferior samples of oxalate of cerium, chloral, and chloroform were found. 115 samples of cream of tartar were bought at grocery stores, and of these only 30 were good preparations, 6 being fair, and 79 "clearly adulterated or falsified." Also there were examined 275 samples of alkaloidal preparations, including sulphate of quinine, citrate of iron and quinine, sulphate of morphine, and tincture of opium. Of these 177 were good, 13 of fair quality only, and 85, or 30 per cent., were "unreasonably deficient."

The object of the work is not so much to determine the proportion of adulterated to pure drugs on the market as to expose actual adulteration, sophistication, and carelessness; to inform the public and to caution dealers. Consequently a great variety of drugs was not purchased, and only those were chosen that were likely to be adulterated. But though the frightful showing of the figures above does not represent the actual proportion of impure drugs sold, it shows the deplorable chance to which a physician in prescribing is subjected. One inclined to be facetious might remark, that, what with the difficulty of making a correct diagnosis, the furore and trouble the germs are creating, the chance of getting impure medicine, and the awful weather, it is a wonder that any of our patients live.

The practical value of these analyses comes from the fact that notices are sent to dealers from whom impure drugs are bought, notifying them of the impurities. Rarely does a second notice have to be sent and the standard of preparations is being gradually raised to that of the Pharmacopœia. The law is adequate to its purposes. It simply needs enforcement. After one or two or three warnings the penalties laid down should be applied. In the examination of alkaloidal preparations the bulk of attention was very properly paid to quinine preparations, as the report states that some druggists sell as many as two hundred thousand two-grain pills annually, and that fifty thousand is the estimate made of the average number sold by a druggist doing an ordinary business.

THE BARKING COUGH OF PUBERTY.

WE have commented before upon the remarkable resourcefulness of Sir Andrew Clark, who every year, from the stores of his experience, furnishes either some new disease or at least some contribution to nosology.

In a paper recently read before the Medical Society of London, Sir Andrew described a disorder which he terms "the barking cough of puberty," or cynobex hebetis. This he considers to have such peculiar and distinctive features as to entitle it to be classed among the distinct

a great pain, and who gave the following history:

For the previous year about every four weeks she had had more or less pain in the pelvic region (her mother stated that she had never menstruated), but during the intervals she had been perfectly well. The pains had gradually increased in severity and duration till, for several weeks previous to my having been called, they had been constant, and for some time she had been unable to sit down.

On examination a small tumor was found in the hypogastric region and on attempting to make a vaginal examination I found a fluctuating tumor projecting from the vulva about the size of an orange, and of course there was no opening in the hymen.

On making an incision three pints of dark, thick, odorless blood was evacuated. The patient did not have any pain during the contraction of the uterus. I washed out the vagina with a 1 to 4,000 bichloride solution. Although I requested her mother to keep her in bed till I saw her the following day, when I arrived I found her at work. Her temperature and pulse were normal and she had no further trouble.

Hyperalimentation in Acute Delirium.—Dr. G. Guicciardi has obtained in the treatment of acute delirium less unfavorable results than one usually observes in this disease. He only lost (out of eleven cases) four by death, while five completely recovered, and two became weak-minded. The treatment adopted by him consisted in isolation, removal of all sources of irritation, protracted lukewarm baths, with the simultaneous application of ice-bladders to the head, and a few leeches to the mastoid process, as well as in revulsion to the intestine and ergotine injections. But he places a still greater empha-

"The malady of this patient lasted over two months, and then slowly subsided."

Sir Andrew reports four severe cases similar to the

foregoing, but adds that it often occurs in milder and less typical forms. He finds but brief reference to the subject in literature, but thinks it has been recognized and described, and cannot be called a new disease. Still, as a clinically distinct disorder, and one not extremely rare, he affirms that it has not received its share of attention. The disease is recognized in Sir Morell Mackenzie's "Diseases of the Throat and Nose," but the description differs somewhat from that given by Dr. Clark. There it is described as occurring in young girls between sixteen and twenty, of having been met with in boys between fourteen and sixteen, and of having been seen several times in children between five and fourteen years of age.

With regard to the nature of the disease, Dr. Clark refers to the irritable condition of the nervous system at the time of puberty, and adds: "When, furthermore, we remember that for the most part the family and personal history of the patient is nervous; that no local adequate changes are to be found in the pharynx, in the larynx, or in the lungs; that the cough and other disturbances of the respiratory movements are rhythmic and paroxysmal; that no structural degenerations follow in the wake of the malady; and that it disappears with, or shortly after, the complete evolution of sex—we cannot doubt, at least I think, we cannot justly doubt—that this convulsion or barking cough of puberty (cynobex hebetis, pubertatis tussis caninalis) is a malady of nervous origin, character, course, and issues. But in how far the inborn changes which engender it are central, or in how far peripheral, and to what extent they are modified or controlled by extrinsic influences, I am at present unable to determine."

The disease is tedious in its course, but the patients ultimately recover.

In the matter of treatment it was found that most of the patients were over-fed, and that a plain and liberal, but not excessive, diet was indicated. Locally, glycerine of borax with oxychloride of bismuth and morphine may be brushed over the whole throat three or four times daily, or instead of morphine, cocaine may be used; but in this case great care must be taken.

Internally, quinine, iron, arsenic, zinc, and belladonna, are recommended.

The disease which Dr. Clark describes belongs to the class known by French writers under the name of convulsive tic, and called sometimes also a form of chronic chorea. Cases of this kind have been seen and described by American writers.

RHEUMATIC ARTHRITIS AND RHEUMATOID ARTHRITIS.

We follow with much interest the attempts of clinicians and pathologists to show the difference between chronic rheumatic arthritis and rheumatoid arthritis. The conspicuous failures of the past do not discourage writers, and have not in particularly discouraged Mr. Hugh Lane, of Bath, England, who publishes a monograph entitled "Differentiation in the Rheumatic Diseases." Mr. Lane's present brochure is condensed from a work by himself and Mr. Charles T. Griffiths on the same subject, which work is based upon experiences with over three thousand cases. The author ought to be able, therefore, to speak with some authority.

He tells us in the beginning that rheumatism "is increasing with terrible frequency among the young," and he urges the necessity of prevention and early interference with the disease.

Mr. Lane finds that there are two distinct diseases among the victims of what is popularly called chronic rheumatism. He calls them rheumatic arthritis and rheumatoid arthritis.

The patient with rheumatoid arthritis presents a peculiar pallor, and the family or personal history shows a "strumous" taint, whatever that may be. The joints are crippled and deformed, with distinct muscular atrophy. If the fingers are affected the swellings have a strong inclination to be spindle-shaped. The proximal phalangeal joints of the second finger are favorite points of attack. There is more thickening of the capsule and more effusion. General weakness, anæmia, emaciation, loss of appetite, lassitude, and various neuroses accompany rheumatoid arthritis. In advanced conditions of the joint trouble there is an osteo-arthritis.

Mr. Lane thinks that the difference between rheumatic and rheumatoid arthritis is about as wide as it can possibly be. Yet we regret to say that he has quite failed to show in what respect they are so fundamentally apart. The attempt to differentiate the diseases by clinical facts alone is most unsatisfactory. Pathology is of some help, for it shows us that rheumatoid arthritis is primarily more of a distinctive and degenerative process, while rheumatic arthritis is more irritative and inflammatory in character. But, after all, we are still much in the dark, and we hope that Mr. Lane and others will try again to solve the problem.

THE PATHOLOGY OF EMPYEMA.

It is quite generally believed, at the present time, that suppuration is due to the action of microbes. Dr. Henry T. Bewley, of Dublin (*The Dublin Journal of Medical Science*), is, therefore, right in stating that empyema is due to the entrance of pus-producing organisms into the pleural cavity. These micro-organisms have been looked for and found by a large number of observers. Serous pleural effusions are, however, usually free from organisms. Fränkel states that if micro-organisms are found in serous fluids removed by exploratory puncture, an empyema already exists, the pus-corpuscles, through their higher specific gravity, having sunk to the bottom, and left a layer of serum above.

Dr. Bewley says further that, according to their pathology, we may divide cases of empyema into several classes. The way in which the bacteria effect an entrance into the pleural sac is in some cases plain and evident; in other cases it is doubtful.

First, there are cases of empyema which are due to the introduction of ordinary pus-producing organisms, either through the chest-wall or from the lung into a healthy pleural sac, or into a previously existing serous effusion; as when a penetrating wound of the chest-wall is received, when a pulmonary abscess or an area of gangrene in the lung comes to communicate with the pleural cavity, or when a septic exploring needle is introduced into a serous effusion.

Secondly, some cases of empyema occur in immediate

connection with croupous pneumonia, and are caused by the organism which is believed to cause many cases of pneumonia—the so-called pneumococcus of Fränkel. Out of twelve cases of empyema which this observer examined, in three he could not find in the pus any other organism than the pneumococcus. He remarks that he has found the prognosis, in cases of empyema due to the pneumococcus, to be better than in those which are caused by the ordinary pus-producing micrococci.

A third group consists of those cases in which the infective virus is the tubercle bacillus. In these cases tuberculosis of the lung exists, and the bacilli make their way through a hole in the pulmonary pleura. In some cases the rent in the lung is manifest and large, as when a phthisical cavity bursts into the pleural sac, giving rise to a pyopneumothorax; in other cases minute perforations occur in the lung, through which a minute particle of tubercular matter gets into the pleural sac. In these latter cases a tuberculous empyema develops without any pneumothorax.

In a fourth class of cases, those in which a serous effusion becomes purulent without apparent cause, the organisms probably get into the pleural sac by way of the blood- and lymph-channels. To explain such cases it is assumed that under various conditions, especially when the general health is not good, different kinds of pathogenic organisms find their way into the tissues of the body, are carried about by the blood and lymph, and, if they find in any part of the body conditions suitable for their growth, develop and multiply, and cause suppuration.

A fifth variety of empyema occurs in pyæmia. In this disease enormous numbers of micro-organisms exist in the body; they form emboli, which block up small blood-vessels, and give rise to secondary abscesses. The pleura may be affected, and a pyæmic empyema ensue. These cases differ from the last mentioned, in that in these pyæmic cases the organisms probably exist in the blood in far greater numbers, and possibly possess greater virulence.

So far from being a single disease, with a uniform origin and single exciting cause, empyema, in the light of modern pathology, must be regarded as symptomatic of quite a number of morbid conditions. Fortunately, whatever its origin, the treatment indicated is always the same, *i.e.*, to remove the pus, and prevent its reaccumulation by that method which is least liable to prove injurious to the general condition of the patient.

THE LAW AND THE WET-NURSE.

A curious case came before the city court last week, and one with a more than curious termination. A gentleman discharged a wet-nurse because she went out at night and, on this and other grounds, was not satisfactory to him. The nurse brought suit for breach of contract, and asserted that as long as she supplied the infant with good milk, the father had no right to dismiss her. A pair of healthy-looking twins were produced in court as evidence of the superior lactogenetic capacity of the wet-nurse, whatever might be the irregularity of her habits or the delinquencies of her morals. The jury rendered a verdict for the plaintiff, and awarded her the full amount of her salary according to her alleged contract.

We are not sufficiently versed in its mysteries to say that this was not good law; but it must strike those who have ever had dealings with wet-nurses as a most grotesque miscarriage of justice. In this city there are two things which are usually done with wet-nurses: they are first engaged, and they are next discharged—the two events being as a rule in very close sequence. If the Court is going to take away the privilege of discharging wet-nurses, the milkless mother and infant will have an unfortunate time of it. We very much doubt if any of our city readers, at least, can recall a case in which the wet-nurse's first engagement stayed out the period of lactation. The moral of the case just cited will be that fathers must make no contracts, written or implied, to keep the wet-nurse till the babe is weaned.

The wet-nurse is at best a trial and vexation of spirit; and there is an increasing tendency to put the infant on the bottle, if the mother fails to supply enough good milk.

THE SALOONS AND THE HOSPITAL SUNDAY ASSOCIATION.

There is a popular impression that drinking is a convivial pastime which warms the soul, expands the feelings, and kindles sentiments of good fellowship and generosity. This impression, we should add, is a popular one among the drinking classes only; it does not prevail among prohibitionists, and is not set forth in the *American Journal of Inebriety*.

A study of the returns of the Hospital Saturday and Sunday Fund does not support the impressions favorable to the generosity of the bibulous. There have been, up to date of writing, $47,310.00 received from all sources by the Association. Of this sum $591 was received from various cafés and bars about town. The sums ranged from $10 to about $40. At one well known café, where thousands of dollars are reputed to be taken in daily for drinks, the amount contributed to the fund was $20.72. The Hospital Association gets over $30,000 from the churches, $500 from the saloons, and nothing from the Presbyterians. Here is an opportunity for the moralizer.

THE NEW YORK COUNTY MEDICAL SOCIETY.

The minutes of the County Medical Society, which have just been published, show that this organization is quietly yet energetically doing a great deal of good work, both for our profession and the community. Without the prestige of an elaborate home and a library like the Academy, the County Society nevertheless has its following of loyal members and wise executive officers. The society has the largest membership of any local society in the State, and probably in the country, and it consequently represents the great medical democracy and looks out faithfully for its interests. Aside from much excellent scientific work, the County Society has been the pioneer in the war against quackery, and in enforcing the medical laws directed against this class.

In the past year it spent $2,357.95 for legal services. The report of the Society's counsel, Mr. Purrington, shows that 159 cases were investigated, 20 arrests were made, 11 cases tried, 10 convicted; while the gross amount of fines imposed was $850. Among cases still pending

are those of Irish, John H. Woodbury, Wimpleberg, Guggenheim, Batt, Fulda, and Allen. The County Society was the first to secure the conviction of a person for using the letters M.D. appended to the name without authority. The advice of its counsel has also been of much service to the Board of Regents during the recent somewhat perplexing medical legislation.

The Society has done useful work also in directing attention to the need of public baths, and to the deficiencies in the public schools.

It publishes a medical directory, whose contents are not modified by the personal bias of its editor, but accurately represent the medical profession of the county and city. Lastly, and not least in the opinion of many, it has introduced at its meetings the feature of a collation, a kind of aftermath of sandwiches and colloquial science.

MEDICINE AND MONEY.

We referred a short time ago to the fact that the free gift by Koch of his discovery to humankind ought to produce upon the secular and commercial mind a favorable impression as to medical methods and medical ethics. There is evidence that it has had this effect.

The New York *Tribune* says: "Physicians are almost the only members of the community who do not make money out of their important discoveries. It is a point of honor among them to allow the whole world to profit by their researches when they find a new remedy for widespread disease. Their reward is in the benefit which the sick and helpless receive, and in the gratitude, which should not be stinted, of the community at large."

The Minneapolis *Tribune* follows in the same line: "The greatest and best medical and surgical discoveries have been free gifts to suffering humanity the moment their value has been demonstrated. The use of anæsthetics, the principle of vaccination, new or improved operations in surgery, new drugs and methods of treatment, have invariably become the common property of the faculty from the hour of their discovery."

We see so much in public print directed against the courtesies and the ethics of our profession that it is refreshing to hear kind words. Medical men are not angels; they are in fact very human creatures with much hard work to do and often many mouths to feed; but there is a strain of benevolence in all their daily work. From the beginning they are taught a doctrine of helpfulness to others, and are made to think that their life-work should not be one in which every service must receive its pecuniary reward. Koch's discovery will not be valueless if it only impresses on the profession and the laity these facts.

New York County Medical Association.—At the annual meeting of the New York County Medical Association, held January 19th, the following officers were elected: *President*—Dr. S. B. W. McLeod; *Vice-President*—Dr. William T. White; *Recording Secretary*—Dr. P. B. Porter; *Corresponding and Statistical Secretary*—Dr. A. D. Ruggles; *Treasurer*—Dr. John H. Hinton; *Members of the Executive Committee*—Drs. Edward Sanders, N. J. Hepburn, William B. De Garmo, and George T. Harrison. The membership of the Association now amounts to five hundred and eighty-three.

News of the Week.

Obstetric Section, New York Academy of Medicine.—At the annual election of officers for the Section on Obstetrics and Gynecology of the New York Academy of Medicine, January 22d, Dr. Egbert H. Grandin was re-elected Chairman, and Dr. Irwin H. Hance, Secretary for the ensuing year.

Railway Sanitation.—An ordinance has been passed in Indiana which compels all railroad companies to put storm doors on all railroad coaches and street cars for the carriage of passengers, to keep the temperature from sixty-eight to seventy in the cars, and to furnish spittoons partly filled with a solution of bichloride of mercury, for the use of persons suffering from chronic cough and expectoration.

Joseph Parrish, M.D., formerly Superintendent of the Pennsylvania Training School for Feeble-minded Children, President of the American Association for the Cure of Inebriates, died at Burlington, N. J., January 15th, aged seventy-two.

Dr. W. J. McClure, Health Officer of York, Pa., died January 24th, aged fifty-two. He was well known throughout the State, having been a member of the Legislature from Adams County, in 1878.

The Cost of the Present Coroner System.—The cost to the county of Westchester last year for coroners' inquests and doctors' fees for medical examinations was $10,427.54 This fact is announced in the press under the head of "big doctor's bills." As a matter of fact, it s not the doctors but the politicians who are, as a rule, coroners, and get the big fees.

A Death from Hydrophobia occurred in this city on January 23d. He was bitten on the lip six weeks before, by a dog at Arlington, N. J.

The American Electro-Therapeutic Association was organized January 22d, at the New York Academy of Medicine, by the election of the following officers: *President*—Dr. G. Betton Massey, of Philadelphia; *Vice-Presidents*—Drs. W. J. Morton and A. H. Goelet, of New York; *Secretary*—Dr. William H. Walling, of Philadelphia; *Treasurer*—Dr. George H. Rohé, of Baltimore; *Executive Council*—Drs. H. R. Bigelow, of Philadelphia, F. H. Martin, of Chicago, William H. Hutchinson, of Providence, R. I., and C. D. Palmer, of Cincinnati.

Medical Teaching in Portugal.—A new medical school, on a scale of equipment adapted to the needs of modern medical education, is about to be erected in Lisbon, at an estimated cost of 400 contos of reis. It has also been decided to make better provision for clinical teaching by the establishment in the Portuguese capital of a "Policlinic," somewhat on the model of the new Policlinico Umberto I., at Rome.

An Imperial Wedding Present.—Dr. F. Bramann, Professor of Surgery in the University of Halle, who, in the absence of Professor v. Bergmann, performed tracheotomy on the late Emperor Frederick, was married recently, and received on the occasion a patent of hereditary nobility as a wedding present from the reigning Kaiser.

To Reorganize the Morgue.—A committee of the Medico-Legal Society, consisting of Messrs. Clark Bell, S. M. Ehrlich, H. A. Mott, Jr., and Dr. M. J. B. Messemer, and P. L. Donlin, has offered the following sensible suggestions for the consideration of the authorities: "That the basis of the proper organization of the morgue should be substantially that adopted in the city of Paris, France; that the chief be selected from one of the ablest physicians in the city, thoroughly informed on all questions of pathology and toxicology, and his staff be composed of specialists in every branch of scientific research, so as to be able to conduct autopsies, to insure the detection of crime, in case it has been committed, even in the most obscure cases; and that the salary of the chief should be the highest salary paid to any medical man in the city, and it should be sufficient to command the services of the ablest talent in the profession of chemistry and medicine, and especially such as have distinguished themselves in pathological studies and morbid anatomy."

"Parataloid."—It has been stated that Koch suggests the above name for the "lymph," which he first compounded. The word is presumably derived from *παρά*, beside, alongside of, and *τάλᾶς*, suffering.

Medical Curiosities.—Among the curious cases which came under our notice, says a correspondent of *The China Missionary Meaical Journal*, is the following one of protracted labor, where the father of the woman, seeing that both mother and child were in danger, seized a sharp iron hook, resembling those on which the butchers hang dressed beef, but here used on the native steelyard. Introducing this into the scalp of the child, he succeeded in saving both mother and child. Nearly the whole scalp was detached in three places from the skull. The father walked twelve miles to the hospital with the child in his arms. The wound was sutured with silver wire, and today the infant is a vigorous boy.

An Epidemic of Rabies is said to prevail in the neighborhood of Reading, Pa. Three persons have been bitten by dogs presumably rabid.

Medical Legislation in Connecticut.—A number of medical men met at Hartford, Conn., on January 27th, in order to complete the draft of a medical practice act.

Parataloid and Poetry.— Dr. San Martin, a Spanish physician, cites the case of a man who a short time ago was exhibited at a meeting of medical men as a "bacillary museum," and who, after seven injections of parataloid, was so greatly improved (notably in respect of the discharge from a number of suppurating glands), that he celebrates the virtues of the *linfa maravillosa* and the glory of its "immortal and illustrious" discoverer in a dithyrambic ode addressed to Dr. San Martin. In a case of hip-joint disease considered to be probably too far advanced for operation, the improvement, both local and general, was also very marked.

The Ricord Prize.—The French Academy of Medicine has been authorized by the Minister of Public Instruction to accept the legacy devised to it by Philippe Ricord for the foundation of a prize to be awarded every two years to the author of the best work on venereal disease which appears in the intervening period.

The Death of a Patient under treatment with parataloid, is reported from Glasgow, and another from Russia.

New York Physicians' Mutual Aid Association.—The twenty-second annual report of the New York Physicians' Mutual Aid Association, just issued, shows a very prosperous condition of the society. The membership has largely increased during the year. Eight hundred and twenty-five dollars is now paid upon the death of a member. We renew our commendation of this society to the members of the profession throughout the State.

Dr. Pierson Rector, of Jersey City, died on January 22d, of blood-poisoning contracted while attending an obstetrical case. Dr. Rector was born in 1838. He attended the Albany Medical College. At the outbreak of the war he became Surgeon of the One hundred and fifty-second New York Volunteers, and was made Assistant Surgeon-General, serving under Meade, Sherman, and Grant. He continued in the army till 1878, and then moved to Jersey City, where he rapidly acquired a large practice.

The United States Marine Hospital Service.—Surgeon-General Hamilton has sent in his report for the year ending June 30, 1890. It shows that in the 19 United States marine hospitals and in the 120 sub-stations at which hospital relief is furnished, 50,671 sailors were cared for in the year, of whom 14,587 were treated in the hospitals proper, and 36,084 in the dispensaries. The nationalities of these patients were as follows: 6,916 Americans, 1,655 Norwegians and Swedes, 1,349 Irishmen, 775 Germans, 552 Canadians, and the rest from all parts of the globe. Dr. Hamilton recommends a new hospital at Sitka, Alaska, and reports the temporary establishment of a floating hospital in Chesapeake Bay for the relief of oyster dredgers. During the year 2,976 pilots were examined for color blindness, and 41 were found to be suffering from that defect. Of 1,061 keepers and surfmen in the Life-saving Service who were examined for physical ability in the performance of their arduous duties, 72 were found to be below the mark. As the Government took charge of immigrant inspection at the port of New York last year, the Hospital Service was charged with the medical examinations, and a temporary hospital was fitted up at the Barge Office; but a large hospital and insane asylum for the immigrant service is being established upon Ellis Island by the Treasury Department. The report contains a special description of the origin, cause, and termination of the "grippe" epidemic, and calls attention to the unhealthy condition of the ports of Havana and Rio Janeiro. Dr. Hamilton would like the United States to give funds to have them improved sanitarily, as the prevalence of yellow fever there is a constant menace to the health of this country.

The Northwest Texas Medical Association will meet in Abilene, Tex., on the first Tuesday in February.

The Gentle Medical Man.— Nothing can be said of the physician, and especially of the surgeon, more to his honor than to say he was gentle. When this gentleness is real, and is manifested toward all—dispensary patients and private alike—it is based on a sympathy which does the wisest credit.—*North American Practitioner.*

The First Case Cured by Koch's Parataloid.—It is stated that one of the patients who suffered from phthisis and was treated at Bellevue Hospital by the Koch injections has been discharged cured, and is now exhibiting himself in a Bowery Museum as "The first American cured by Koch's Lymph."

Effect of Parataloid on the Sputum of Phthisical Patients at Davos.—Since November 17th, 400 patients have been treated by the Koch method at Davos. Dr. J. Amann has made bacteriological investigations of the sputum of 288. He finds that the injections increase the amount of sputum and the number of bacilli; their form is also somewhat changed, and they take up the stains more readily. There is also an increase in the number of elastic fibres of the sputum.

Dr. Koch's Relations to the German Government.—The following very clear account of the relations of Koch to the government, and of his first experimental work with the parataloid, is given in the *British Medical Journal*. "Dr. Koch has been for many years the director of the Hygienic Laboratory in Berlin. This laboratory is a government institution, maintained by the Educational Department of the German Government, and Dr. Koch, as its director, has been an officer of that department. All the earlier experiments for the discovery of the now famous lymph were conducted in Dr. Koch's own laboratory in the Hygienic Institute, and there the observations upon guinea-pigs and other animals which emboldened Dr. Koch to proceed to inoculate human beings, were made. The laboratory, however, presented no facilities for making these investigations upon human beings, and Dr. Koch holds no official position with regard to any of the Berlin hospitals. He therefore found himself in a practical dilemma, inasmuch as if he were to make his experiments in a public hospital it was feared that the premature and eager discussion of incomplete observations and immature results might easily tend to interfere materially with the investigations and to produce evil results. Dr. Koch consequently hired a private house at his own expense, and obtained the assistance of two gentlemen with whom he had private acquaintance—Dr. Libbertz, an old schoolfellow, and Dr. Pfuhl, his own son-in-law. The lymph was prepared in considerable quantities in this private house by these two gentlemen under Dr. Koch's supervision, and the earliest injections in man were made in the private hospitals of Drs. Cornet and Levy. It soon became evident, however, that the interest, both among the general public and in the medical profession was too keen to permit of the continuance of the investigation upon these lines: and Dr. Koch, acting on the advice, or perhaps it might be correct to say upon the instructions, of Herr von Gossler, the Minister of Education, published the now famous preliminary paper, and distributed the lymph to certain of the hospitals in Berlin. Meanwhile, the manufacture of the lymph was carried on in the private house by Dr. Koch and his two personal private assistants. Recently this arrangement has ceased; the house in which the lymph is manufactured has been taken over by the Education Department of the German Government, and Drs. Pfuhl and Libbertz have become officers of that department. The Koch Institute, which the German Government are now erecting, will consist of two parts—a laboratory and a clinical department containing one hundred and fifty beds. The clinical department will probably be under the direction of Professor Brieger. The observation and treatment of the patients received into it, it is hoped, will afford in the future opportunities for Dr. Koch to prosecute his studies with regard not only to tuberculous diseases, but to tetanus, diphtheria, and typhoid fever. In this way the inconvenience which has arisen from his having no clinical wards of his own will be avoided. In the laboratory bacteriological investigations will be carried on, and at the earliest possible date the laboratory for the preparation of the anti-tuberculous liquid will be transferred to this department of the Koch Institute. The director of this bacteriological department has not yet been appointed, but the whole institute will be under the general direction of Dr. Koch, who will remain an officer of the Education Department."

Delayed Reaction from Lymph.—Dr. Karl von Ruck, B.S., M.D., of Asheville, N. C., writes: "In my experience with Professor Koch's method I have a unique experience to record, which is no doubt of interest to others who are carrying out the work, and the knowledge of its possibility may avert serious consequences.

"In a case of early stage of pulmonary tuberculosis, without expectoration, the remedy was applied to confirm the diagnosis, for the first time on January 9th, no reaction occurring to 0.001 gm. On the 11th, she received 0.0015 gm., again without reaction, either general or local; on the 13th I injected 0.002 gm., and although observations of temperature, etc., were made every two hours, no reaction had occurred on the morning of the 14th, or twenty-four hours after the last injection was made. The patient was now very anxious to avoid further delay, and pleaded for another injection and increase of dose, which, in view that there is not a single case on record in which reaction occurred later, might have been granted. I fortunately decided to wait until the next day, and contrary to expectation the patient reacted at 4 P.M., or thirty hours after the last injection, with a severe chill, rapid rise of temperature to 102° F., nausea, pain in abdomen, a rapid weak pulse, headache, and general depression, and profuse perspiration, this condition lasting twenty-four hours, when the normal state was again reached. To-day a similar but not quite as severe reaction occurred after injection of only 0.0015 gm., a dose to which previously no reaction occurred at all, and this time after twelve hours only.

"The fact that the reaction may be delayed for so long a time, and then again occur in the same patient within the usual limit, should make it an absolute rule never to repeat the treatment short of forty-eight hours, and I have no doubt, had I acceded to the wishes of my patient, I should have had good reason to regret the haste."

The American Electro-Therapeutic Association held its first meeting for organization at the New York Academy of Medicine, on Thursday, January 22d. The following officers were elected: *President*—Dr. G. Belton Massey, of Philadelphia; *Vice-Presidents*—Dr. W. J. Morton, of New York, and Dr. A. H. Goelet, of New York; *Secretary*—Dr. W. H. Walling, of Philadelphia; *Treasurer*—Dr. George H. Rohe, of Baltimore.

Brown-Séquard's Fluid vs. Koch's Lymph.—Dr. D. Uspenski, in a lecture recently delivered before the Russian Society of Public Hygiene (*Deutsche Medizinal-Zeitung*, December 29, 1890), gave an account of some clinical experiments which he had made with Brown-Séquard's "emulsion" in the treatment of tuberculosis. He had tried this preparation in eighteen patients in different stages of the disease. Two of them had been quite given up. He consider sthat Brown-Séquard's fluid has a markedly strengthening effect, and is beneficial in all cases of phthisis without exception, whether the patients have any additional treatment or not, and whether they live under favorable conditions or the reverse. The tubercle bacilli do not disappear entirely, even in the most successful cases, but diminish in number in proportion to the extent to which the diseased process recedes. Uspenski says the remedy does not kill the bacilli, but weakens their pathogenic power.

Unconscious Parturition.—Abnormally easy parturition sometimes occurs under circumstances which result in the death of the child. Such cases, therefore, may have a medico-legal importance. Dr. Brunon has recently reported such a case and cited several others. A married woman, aged twenty-two, had a troublesome cough one day shortly before term. The coughing was accompanied with lumbar pains, which increased. At eleven o'clock in the evening the patient tried to pass a motion. She sat over one hour in the closet, believing that her pains signified painful defecation. Then she went to bed. At half-past one o'clock she woke up feeling a desire to pass a motion, with lumbar pains such as she had felt before when constipated. As she rose to go to stool a smart lumbar pain occurred, and she felt something between her thighs. On handling it she found, much to her surprise, that it was the head of her first-born. She declared to Dr. Brunon that the pains were entirely lumbar, she had no colicky sensations, and none of the expulsive pains, usually so severe, especially in primiparæ. The desire to defecate was strong, and she stated that the child might have been born into the pan of the closet without her recognizing the truth of her condition till the moment of its delivery. The patient was an intelligent, well-educated woman, free from any neurosis. This cases proves that in the case of an inexperienced person an infant might be expelled into the water in the pan of a closet without any intention of infanticide on the part of the mother.

Public Surgical Operations.—We are a little in doubt whether the following, published in an Omaha daily paper, is to be taken seriously: "Last evening the large attendance at the People's Theatre, in addition to the usual entertainment given by the great German Polyclinic doctors, were witnesses of several difficult surgical operations that were undertaken and most successfully accomplished in full view of the packed audience, including a number of Omaha's leading physicians. They were pronounced by those who know to have been most skilfully and scientifically handled. The first case was a large tumor removed from the right cheek of William Villiers, of the Millard Hotel billiard-room. One of the doctors of this staff conducted this operation, and it was eminently successful; and the result will be, William Villiers before long will be all right. Another operation requiring great skill was relieving the little eight-year-old son of F. M. Kiger of strabismus (or cross-eyes). Cases of this kind require the greatest of care and experience, and were most satisfactory evidence of what these doctors can do. These entertainments are most instructive and pleasing. Nothing is done to which the most fastidious can take exception, ladies being always especially pleased. These notable physicians can be consulted at their office in the Barker Building. Operations and entertainment each evening at 8 P.M., at the People's Theatre. Admission free to all."

Homœopathy in Russia.—Homœopathy is said to be spreading in Russia, especially in the upper social strata. Societies for the propagation of the Hahnemannian doctrines have recently been established at Tschernigow, Odessa, and Warsaw. As has been noticed in other countries, the clergy are conspicuous among its supporters; in Russia the military mind seems also to have an elective affinity for globules and infinitesimal dilutions. Thus at Tschernigow one of the founders of the new society is the bishop. At Odessa, among those who have signed the draft statutes of the society, are the Archbishop of Cherson, Generals Count Rostowzew, Roop, Teplow, and Strandmann, and the mayor of the city.

The Technique of Magnetic Healing.—A representative of the *Times and Register* recently visited a somewhat notorious "magnetic healer," and in the guise of a patient obtained some interesting facts regarding "magnetic healing." The reporter asked if his method was like that of the Christian scientists. "Yes," was the answer, "the results are all obtained in the same way; magnetic healing, hypnotism, Christian science, and electricity are all the same thing."

"Do you hypnotize your patients?"

"No; I don't think you could call it hypnotism, although it amounts to the same thing. I don't put them to sleep, but heal them instantly."

"What method do you employ?"

"If the patient has rheumatism, I simply place my hand on the affected limb and ask if he feels pain. 'Yes,' is replied; then I do so—" and here the "doctor" frantically waved his hand in front of our representative's face—"and say, 'Throw away your crutches; the pain's gone; you're well.' And sure enough he is. Then I tell him to jump about, and stamp his feet, or otherwise use the limb violently, but no pain can be induced."

"To be sure," he added, "this condition may last only a few weeks; but two or three such treatments will produce a permanent cure."

"How do you account for such cures?"

"I don't account for them; I can't explain them; I only know I can do it. But I do not always use it, as few can afford to pay for it; and then it is very weakening, and exhausts me greatly."

"What are your charges?"

"Never less than $10, and up to $100."

"You give stage performances, do you not?"

"Yes; and have greater success in treating people on the stage than in private practice."

Reviews and Notices of Books.

Wood's Medical and Surgical Monographs. Volume VII., No. 1. Contents: Stricture of the Rectum, by Charles B. Kelsey, M.D.; Influence of Heredity on Alcoholism, by Paul Sollier; Rabies, by Louis Pasteur; Colotomy, Lumbar and Iliac, with Special Reference to Choice of Operation, by Thomas Bryant, F.R.C.S.; Massage of the Abdomen, by Rubens Hirschberg, M.D. July, 1890. New York: William Wood & Co.

"Stricture of the Rectum." A Study of Ninety-six Cases. The means for treatment advised are: 1, Dilatation; 2, Incision; 3, Partial Destruction, including Electrolysis and Raclage; 4, Excision; 5, Colotomy; 6, General Treatment.

By dilatation is meant gradual stretching, not forcible divulsion. Many will here read for the first time that nothing is productive of more evil than forcing a bougie through a stricture when the instrument is too large to be passed without pain and violence, and that no good is ever accomplished in that way. A size should be selected which will pass through the stricture without force, and which may be left in place several hours without causing uneasiness. Incision must always be followed by stretching with the bougie. The results aimed at in partial destruction, electrolysis, and raclage can all be better gained by linear proctotomy. As to excision—extirpation of the rectum—the class of cases to which this operation is applicable is day by day increasing; it is no longer limited to stricture due to malignant disease.

"The Influence of Heredity on Alcoholism." Dr. Sollier has based his discussion upon the history recorded, as carefully as possible, of three hundred and fifty families, one of the members of which was at the time, or had been, at Bicêtre, in the wards of the Epileptic and Idiotic Children. The author has peculiar views concerning the mutual relations of dipsomania and alcoholism by heredity. According to him there is between these two pathological conditions merely a difference of intensity in the impulse, a difference of excitation which effects a varying reaction that permits the one to eliminate the ingested alcohol and leads the other to intoxicate himself. Thus, for each of the morbid conditions a particular course results, and the two become more and more divergent. The work is well co-ordinated, easily followed in its developments, careful in its details, and confined to the subject.

"Rabies." The evidence that the lower animals can be perfectly protected from rabies by proper inoculations is considered absolute by Pasteur. The experiments of others are not altogether so satisfactory, but they show that some immunity is unquestionably conferred, and in general confirm the truth of the principle. It may be yet asserted that its application to man is imperfectly developed, and that it still remains to be shown that antirabic inoculations should be widely adopted. As to this a difference of opinion is allowable. To many who have only read in the lay press of M. Pasteur's work this short paper will be very interesting.

"Colotomy, Lumbar and Iliac, with Special Reference to Choice of Operation." The work of Mr. Herbert Allingham and of Mr. Cripps is given a careful consideration, and the author's one hundred and seventy cases analyzed. In conclusion Mr. Bryant says: "It is therefore clear that iliac colotomy is not yet proved to be superior to the lumbar operation. In doubtful cases, in which an exploratory incision is required for diagnostic purposes, it may be useful, but such cases are very few; in all others, lumbar colotomy has advantages which stamp it as the better measure."

"Massage of the Abdomen." In the works of Nordstrom, Schreiber, and Reibmayr-Petit, otherwise very complete, massage of the stomach is not even mentioned. It is to this part of massage of the abdomen that especial attention is given in the paper before us. The worth of the author's views may be gauged by the knowledge that he holds that massage of all abdominal organs should be done by the physician himself.

Wood's Medical and Surgical Monographs. Volume VII., No. 3. Contents: Insomnia and its Therapeutics, by A. W. Macfarlane, M.D.; and the Index to Volume VII. September, 1890. New York: William Wood & Co.

Insomnia is one of those little things which many physicians are wont to forget in health, and pass over without consideration in the study of disease; too many give it no thought unless relief be demanded by the patient, and then take refuge in one or two of the half dozen hypnotic drugs, seeking only a temporary relief. The knowledge of how to treat successfully a single symptom, like insomnia, is often a better index to the successful practitioner than profound disquisitions upon the germ-theory. And the patient often appreciates the relief of an annoying symptom more than the cure of a serious disease or the conservation of life. It is to the consideration of this condition—insomnia—then, that Dr. Macfarlane devotes this entire number of Volume VII., some three hundred octavo pages. The opening chapter is devoted to the physiology of sleep; the second to general remarks on insomnia. The remaining chapters take up insomnia and its treatment, due to the following causes: Overwork, shock, depressing emotions, neurasthenia, hysteria, hypochondriasis, insanity, myxœdema, spasmodic and paroxysmal neuroses, affections of the brain and its membranes, affections of the spinal cord and nerves, alcohol, morphine, chloral, cocaine, tea, coffee, tobacco, gastric and intestinal dyspepsia, constipation, intestinal worms, disorders of the liver, jaundice, gout, affections of the circulatory system, affections of the respiratory system, febrile and general diseases, affections of the urinary system, and insomnia peculiar to women. In the concluding chapter baths and electricity receive consideration.

Essentials of Anatomy and Manual of Practical Dissection, together with the Anatomy of the Viscera. Prepared especially for Students of Medicine. By Charles B. Nancrede, M.D. Third Edition, revised and enlarged. Based on the last edition of "Gray's Anatomy." Thirty full-page Lithographic Plates, in colors, and 180 Wood-cuts. 8vo, pp. 388. Philadelphia: W. B. Saunders. 1890.

While this book cannot replace the larger anatomical works, sufficient descriptive matter has been introduced to enable the student to refresh his memory of the more numerous facts learned in the lecture- and dissecting-room, or from his "Gray," differing in this respect from most of the works of this class, which are little more than a list of names.

Ointments and Oleates, Especially for Diseases of the Skin. By John V. Shoemaker, A.M., M.D. Second Edition, revised and enlarged. 8vo, pp. 298. Philadelphia and London: F. A. Davis. 1890.

This volume is No. 6 in the Physicians' and Students' Ready Reference Series. It is a *résumé* of the various papers written by Dr. Shoemaker on the subject of the oleates and their uses, and a very complete survey of the manner in which, and purposes for which, fatty substances are applied to the human body. In addition to our officinal ointments the author has described those which are commonly used in this country—those substances which are used extemporaneously—and the officinal British ointments. The officinal lists of France, Germany, and Austria are also given, while those familiar in the practice of Italy, Spain, and the Spanish colonies have been compiled from all available sources. The reader may thus obtain a conspectus of the whole subject of inunction as it exists to-day in the civilized world.

Eighth Annual Report of the State Board of Health of the State of New Hampshire, for the Eighteen Months ending October 31, 1890. Manchester: John B. Clarke. 1889.

It is generally difficult to understand why State Boards of Health print volumes of annual reports. This volume now before us has a very good reason for its being, inasmuch as it contains at least one paper of unusual value, to wit, "Practical Sanitary and Economic Cooking," by Mrs. Mary Hinman Abel, being the Lomb Prize Essay for 1888, under the inscription, "The Five Food Principles, Illustrated by Practical Recipes." Scarcely too much can be said in favor of this essay, which, as the Secretary of the American Public Health Association tells us, with truth, is unequalled, and should be put in the hands of every woman interested in household economy. We have read many books on this subject, and we know of none which contains so much valuable information, though in general they cover many more printed pages. To the beginner in housekeeping the work is invaluable, covering in two hours' careful reading all the principles of cookery, so arranged as to be easily found, and so simple and lucid in statement as to be quickly mastered and easily remembered. That this essay may be placed in the hands of every family in the country is the earnest desire of the gentleman giving the prize, as well as that of the Association; therefore a price barely covering the cost has been placed upon this volume.

The Latin Grammar of Pharmacy and Medicine. By D. H. Robinson, Ph.D. Philadelphia: P. Blakiston, Son & Co. 1890.

All teachers in schools of pharmacy and medicine have long felt that a knowledge of Latin was essential to a thorough comprehension of the language peculiar to their work. The student, however, who looks mainly to the practical side of the subject—seeing but a remote connection between the ordinary Latin text-book and the special knowledge he requires—throws aside any systematic study of this important language, deeming it a waste of valuable time. In order that the student, while learning Latin, might learn the names of drugs and many of the formulæ for preparing medicines, and thus make the study of the language practical and bearing directly upon his life-work, this book was written. It follows to some extent the plan of Collar & Daniel's "Beginner's Latin Book," and will be appreciated by all teachers and all students who have not had the advantage of a classical education.

Saunders's Question-Compends, Nos. 8 and 9. Essentials of Practice of Medicine. By Henry Morris, M.D. With an Appendix, on the Examination of Urine, by Lawrence Wolff, M.D. Philadelphia: W. B. Saunders. 1890.

This series of question-compends is so well known that it is necessary to say very little about them. Intended for the use of the undergraduate and the young practitioner they supply ready hints to recall knowledge obtained from more voluminous sources. It may, of course, be properly questioned whether knowledge obtained in this way is ever desirable; but so long as students are judged by superficial examinations there will be a demand and a use for works of this kind. This present double-number volume is one of the very best of the series, and shows a painstaking thoughtfulness that may well be imitated by more pretentious volumes.

Saunders's Question-Compends, No. 15. Essentials of the Diseases of Children. By William M. Powell, M.D. Philadelphia: W. B. Saunders. 1890.

The subject is discussed mainly from the symptomatic and therapeutic stand points, the questions of diet, general hygiene, and nursing being less fully considered. In a work of this kind, intended chiefly as an aid to the undergraduate and for use in the quiz, only the briefest enumeration of the necessary facts can be expected, but we may reasonably expect the nicest accuracy. This we do not always find, to wit: Torticollis is defined as "a rheumatic pain involving the muscles of the neck," and the diagnostic symptom, "pain on turning the head." This may be the symptom of rheumatism of the neck, whatever that may be, but it certainly is not the diagnostic symptom of torticollis; and further, it is so misleading that cervical spinal caries would be very sure to be mistaken for torticollis and treated with poultices and saline laxatives.

Epilepsy: its Pathology and Treatment. By Hobart Amory Hare, M.D., B.Sc. 8vo, pp. 228. Philadelphia and London: F. A. Davis. 1890.

This is volume No. 7 in the Physicians' and Students' Ready Reference Series. It is the essay to which was awarded a prize of four thousand francs by the Académie Royale de Médecine de Belgique, December 31, 1889. The author believes that it is fairly representative of the views held by the best minds of the profession, and has endeavored to separate the good material in literature from a vast mass of superstition and nonsense which persons even in our own generation have contributed.

Leçons sur les Maladies du Larynx. Par le Dr. E. J. Moure. Paris, 1890.

Among the French writers on laryngology there is perhaps no one whose writings are better known than E. J. Moure, of Bordeaux. This author has recently followed his small work on "Maladies des Fosses Nasales" by a volume on "Maladies du Larynx." In this is much matter not always found in such treatises, as, for instance, a good account of the laryngeal complications of the eruptive diseases, a timely chapter on "La Grippe," and a comprehensive essay on abscess of the larynx. We believe the division between simple primary abscess of the connective tissue and abscess secondary to perichondritis ought to be more strongly drawn. The author, believing that it is the receptivity of the patient that ought to be modified, rather than to sacrifice the patient in order to kill the bacillus, leans to the older treatment of laryngeal tuberculosis. Hennig's and Krause's methods of curetting, followed by the application of lactic acid, is condemned. Rather, as local treatment, is the inhalation of soothing and astringent medicaments advised, such as balsam of Peru, carbolic acid, eucalyptus, creasote, and emulsions of sulforicinate of soda with naphthol and salol. Cocaine and iodoform in solution are used as local anæsthetics.

Intubation in chronic syphilitic stenosis is barely alluded to; and no mention is made of its use in acute cases of laryngeal stenosis. This is a grave omission, the operation having been proven by recent and ample experience to be of unquestionable value in this class of cases. Lupus and scrofula of the larynx are described as the same morbid process—"a form of tubercular laryngitis with few bacilli"—and as a natural corollary, the treatment recommended is the same. In these cases, in addition to remedies directed to the general condition, caustics and curetting, followed by the application of lactic acid, find proper employment, according to this author.

On the subject of laryngeal paralyses—especially those causing narrowing of the glottic orifice—the recent work of Donaldson and Hooper in America, Semon and Horsley in England, and Tissier in Paris is reviewed. Dr. Moure places himself among the opponents of Semons's theory that the superficial nerve-fibres of the recurrent laryngeal supply the crico-arytenoid posterior; and therefore, pressure on this nerve is first indicated by paralysis of those fibres, and consequent abolition of function of the abductor muscle of the cord. There is no reason to suppose that the vagus or the recurrent branch differs from other nerves physiologically; and the theory that neuritis, or compression of the nerve, produces at first

adduction (contracture—*sic*) of the cord by stimulation, and later by paralysis, is the most rational explanation of these phenomena.

Spasms of the muscles of the larynx are classified etiologically—making a good working division—1, Functional spasm; 2, spasm by direct irritation; 3, spasm of peripheral origin; 4, spasm of central origin; 5, reflex spasm; 6, spasm related to a general affection (*i.e.*), chorea of the larynx and "nervous cough."

Pasteur and Rabies. By Thomas M. Dolan, M D. Pp. 83. London: George Bell & Sons. 1890.

In this small work is given the "other side" of the rabies question. Pasteur's methods and statistics are mercilessly criticised. The records of the Paris hospitals have been very carefully searched to verify the position taken. Likewise the position taken by the English Hydrophobic Commission is assailed. It is extremely difficult to decide in such a case as this which party is right. The evidence is conflicting at every report. The Medical Record's disbelief in the entirety of Pasteur's claims has been previously expressed. Dr. Dolan's views must, however, be carefully examined by anyone desiring to hear both sides. If his data are right (which we doubt not), his conclusions leave the Pasteur doctrinaires without ground on which to stand.

Bacteriological Technology. By Dr. C. J. Salomon, Sr. 8vo, pp. 162. New York: William Wood & Co. 1890.

This work is a translation from the Danish, by William Trelease, and is now, in its second and enlarged edition, well illustrated. The author's preface declares his intention to be the outlining of bacteriological courses for physicians who wish to take up the subject at home without an instructor. No exhaustive presentation of the subject is therefore attempted. Only simple and easily managed methods and apparatus are described, and an equipment not too expensive for the average physician is suggested. No previous work covers exactly this ground, and therefore the book needs no apology for its appearance. The name of the author is a voucher for its accuracy. The translator's work is creditable.

The Medical Student's Manual of Chemistry. By R. A. Witthaus, M.D., Professor of Chemistry in the University of the City of New York, etc. Third Edition. Pp. 528. New York: William Wood & Co. 1890.

The principal change from previous editions is in that portion treating of the chemistry of carbon compounds, which has been in great part rewritten in accordance with our latest knowledge. Being written for medical students, it departs at times from the province of pure chemistry and discusses (as all such works should) the relations of the subject-matter taught to practical medicine. It contains everything in the line of chemical instruction that a medical student needs.

Familiar Forms of Nervous Disease. By M. Allen Starr, M.D, Ph.D. With Illustrations, Diagrams, and Charts. Pp. 339. New York: William Wood & Co. 1890.

The first eleven chapters of the present work are devoted to an exposition of the functions of the brain and cord, a description of the important points in anatomy, and a discussion of the methods of diagnosticating focal lesions in various parts of the central nervous system. These chapters contain an excellent summary of our present knowledge of these subjects. The descriptions are clear, direct, and accurate, and they cannot fail to be helpful to the practitioner. They are illustrated with cases.

The more strictly clinical part of the work consists of chapters upon "Locomotor Ataxia," by Dr. W. W. Skinner; on "Paralysis Agitans," by Dr. Frederick Peterson; on "Chorea," by Dr. Wallia Vought. There are chapters by the author on "The Paralysis of Infancy," "Multiple Neuritis," "Epilepsy," "Neuralgia." "Neurasthenia," and an excellent and practical chapter on "Insanity," by Dr. Peterson. These clinical chapters are perhaps of less real value than the first part of the book, but all contain matters that will be found suggestive and useful, and are especially interesting as illustrating American types of disease. It is the part of the reviewer to find some fault, and we are inclined to think that Dr. Starr takes a backward step in referring all idiopathic epilepsies without aura to the medulla, and in considering as cortical only the Jacksonian type and those beginning with an aura.

In the first part of the book is a diagram of the cerebral convolutions, from Eberstaller. While the fissuring is correct, the indicated position of the anterior occipital fissure (Wernicke's) is wrong. This is Eberstaller's fault, however. Such criticisms as the above will not, we are sure, disturb the impression we feel and desire to convey that Dr. Starr's book is in every way creditable to the author, and one that cannot fail to be useful to the student of nervous diseases.

The typographical work is unusually well done, and the cuts are excellent.

Wood's Medical and Surgical Monographs. Published Monthly. October, 1890. Contents: Suppuration and Septic Diseases, by W. Watson Cheyne, M.B.; Pharmacopœia for Diseases of the Skin, by James Startin; The Nasal Neuroses, by Granville McDonald, M.D.; Artificial Respiration—the Theory and Practise; by Benjamin W. Richardson, M.D; The New born Infant, its Physiology, Hygiene, and Nourishment, by Dr. A. Auvard; The Urine in Neurotic Diseases, by Dr. Alexander Peyer. New York: William Wood & Co. 1890.

"Suppuration and Septic Diseases." Of late years a certain antagonism has arisen between bacteriologists working in laboratories and clinical observers who do not possess a practical knowledge of bacteriology. The bacteriologist, directing his attention mainly to the bacteria, has tended unduly to overestimate the importance of these organisms; while the clinician, looking at the matter from the side of the body, has realized that an infective disease is a complex process, and has too often underestimated the importance of the causal organisms. The writer is one who has studied the subject from both points of view, though more from the clinical than from the bacteriological side, and has directed his efforts to attempts to reconcile the apparently conflicting evidence.

"Pharmacopœia for Diseases of the Skin." The paper is made up of the formulæ used in the London Skin Hospital, and a condensed classification of skin diseases. Subjoined notes render the arrangement readily understood.

"The Nasal Neuroses." Like most reflex neuroses, those of the nose are an interesting study in just the proportion that they are unsatisfactory of treatment. This short paper will be found well worth the reading.

"Artificial Respiration." This subject is one which, for the last hundred and twenty years, has, from time to time, called forth the study of the experimentalist, and after him the practitioner, but nothing has been sufficiently carried out in a strictly scientific and uniform manner. In this paper the author attempts to point out how to arrive at some uniformity of action, both in principle and procedure.

"The New born Infant." The writer holds that the hygiene of the child begins with conception. At this point he takes up the subject and carries it through the commonest diseases from which the new-born may suffer.

"The Urine in Neurotic Diseases." The effects of nervous diseases upon the urine are becoming every day better understood; and this short paper formulates in a very clear manner many things which heretofore have been but imperfectly remembered.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, January 15, 1891.

ALFRED J. LOOMIS, M.D., PRESIDENT, IN THE CHAIR.

Cervical Adenitis in Children.—The discussion on this subject was in charge of the section on pediatrics, and was opened with a paper by DR. A. JACOBI, who treated of the etiology, symptomatology, and diagnosis. Dr. Jacobi prefaced his remarks on these three headings with a reference to the anatomy of the lymphatic system, particularly of the cervical, and referred his listeners for a succinct account of this part of the subject to the second volume of Keating's Cyclopædia. Lymph glands, he remarked, was an inappropriate term, since they did not secrete; they were simply receptacles. Nor could they properly be called bodies, but for convenience these terms were still retained. The large number of cells which formed the bulk of the lymph glands, and their near approach to the embryonic state, accounted for the ease with which tumefactions were brought about. Foreign bodies or chemical changes within the lymph bodies caused irritation and disease.

Etiology.—The etiology of glandular tumefaction, both cervical and general, on the basis of hyperæmia or inflammation, was mentioned under two heads: 1, General infection might act through the blood, as in universal putrid and septic infection, in anthrax, leprosy, leucocythæmia and pseudo-leucocythæmia, under the influence of Koch's lymph, in syphilis, also in enteric fever. 2, But the large majority of cases of adenitis, both acute and chronic, owed their existence to a local influence. They were produced by pathological or chemical changes in the circulating lymph which resulted in irritation of the lymph glands. That result was mostly an acute adenitis, which might undergo resolution or become chronic.

There might be a predisposing tendency, either congenital or acquired, yet most cases of adenitis were of local origin, and that local origin should be traced in every case, when possible. It was more difficult in the old or chronic cases.

The local origin might be a lesion of any kind. The best protection against cervical or other forms of adenitis was normal health and absence of lesions of the integument and mucous membrane. Among the local causes might be mentioned trauma, erysipelas, insect bites, pediculi, mastoid disease, aural catarrh, oral disease, so-called fever-blister, herpes zoster. The nose was a frequent source of adenitis; every ailment interfering with the healthy action of the mucous membrane, from the simplest to the severest catarrh, from lesions produced by foreign bodies to the septic influence of nasal diphtheria, might give rise to it. Not a small number of cases of so-called scrofulous glands of the neck for which the children had been punished with cod-liver oil, had in other hands been cured by simple treatment directed to the nose. Adenitis, connected with intestinal parasites, might be accounted for by the child using the finger to relieve reflex irritation set up in the mucous membranes at the entrance to the air passages.

Septic adenitis set up by nasal diphtheria need no longer be considered so hopeless a disease since we now recognize the benefit of treating the local lesions. If the glands swelled under the influence of septic infection, in like manner should they diminish under the influence of cleanliness and disinfection. In mentioning cracked lips, stomatitis, injured tongue, etc., as sources of adenitis, the author repeated and emphasized the statement that there was no protection better than intact integuments. The cracked tongue of the typhoid-fever patient formed the inlet for all kinds of microbes, and these, he thought, were the cause of more deaths than the original infection.

In some remarks on the diagnosis, the author said it was not easy always to tell whether pus was present or not, especially if there were separate multiple abscesses. Where they ran together and formed a large abscess, presence or absence of fluctuation was likely to depend on the thickness or rigidity of the capsule. Sometimes there was a small circumscribed soft spot which could be detected by steadying the glands between the fingers of one hand and palpating with one of the other. When the neighboring organs became implicated, the skin red and sensitive, the diagnosis became easy, whereas the sense of fluctuation might be deceiving. Semi fluctuation was characteristic of sarcoma of almost every region. The presence or absence of the same kind of swellings in other parts of the body would aid in the diagnosis of cervical adenitis due to certain affections, as Hodgkin's disease, pseudo-leucocythæmia, etc. To distinguish glandular abscesses in the cervical region from pus having a different and a deeper origin was also sometimes difficult and might test the observer's experience and dexterity.

The Medical Treatment.—DR. WILLIAM H. THOMSON prefaced his remarks on this subject by saying that he agreed with Dr. Jacobi that a cervical adenitis was usually the result of some local infection; in other words, of some infective material brought to the gland by its lymph channel from a local lesion. Besides this, however, we might add another factor, namely, the greater or less amount of resisting power. He believed this had as much to do with the adenitis as the specific infection itself. Entertaining this view, he had for years considered the question why children should have adenitis nine times to adults once. What was there in the constitution of children which predisposed them to this form of infection, especially as it affected the lymphatics of the neck? There must be some physiological basis for it, and he believed it was referable peculiarly to the great activity of the nervous system at this age. When we reflected, he said, that the brain grew nearly to its full weight for life between the second and seventh years, an example was afforded of more rapid growth and more actual increase in bulk in a given period than in any other tissue or organ of the body excepting the pregnant uterus. During this period, too, the brain went through greater functional activity than it would ever do again. It had to acquire language, acquire impressions of the external world, form ideas thereon, etc. He said that if the brain of the adult could learn in one year what the brain of the child learned in one month of entirely new acquisitions, and learn them as well and as permanently, man would become a prodigy in a few years. This rapid growth of this highly endowed and vascular organ of the body drew upon the blood to a greater degree than was done by any organ at a subsequent period. This great drain upon the system left the other organs in relatively a condition of poverty. Whatever might happen, there was one tissue in the body which would not cease its demands upon nutrition, namely, nervous tissue. It was the only tissue which did not lose bulk in starvation. The relatively poorer tissues showed the first signs of starvation. The first indication of the starving process would be noticed in the cornea of the eye, then in the hair, in the skin, etc. Scrofulous children had short, stubby hair, wanting smoothness and gloss; the skin became harsh and dry. Ultimately he traced these conditions, signs of failing nutrition, to the excessive demands of the brain upon the nutritive supply. With a harsh skin there went such conditions as phlyctenular conjunctivitis, otorrhœa, chronic naso-pharyngeal catarrh, enlarged tonsils, eruptions upon the scalp, conditions which, as Dr. Jacobi had said, favored adenitis. Therefore, in the treatment of the disease he considered the kind of food which would supply the materials demanded by the nervous system. For that reason he believed the greatest prophylactic in adenitis was cod-liver oil. That it supplied food called for by the system at this age was evi-

dent from the fact that children cried for it while adults found it repulsive. No other agent produced equal results in increasing the red blood-corpuscles. He had very little confidence in the medicinal action of the iodides in very young children, although after the twelfth year iodine itself was at times of benefit. The physician in charge of an orphanage once told him he had a large number of cases of scrofulous abscesses for which he had tried every remedy, including iodides, unsuccessfully. Dr. Thomson told him to try Lugoll's solution in one- or two-drop doses, or tincture of iodine. He did, and reported favorably.

Chloride of Calcium.—There was one other agent which he had had occasion to use in a way to put it to a severe test, in consultation cases where ordinary means had failed. He referred to chloride of calcium. He gave the United States officinal solution, half a teaspoonful, increased to a teaspoonful, for a child, diluted with equal parts of syrup of ginger, taken in water immediately after meals.

The Surgical Treatment.—Dr. A. G. Gerster opened the discussion on this phase of the subject. He emphasized the point that modern surgeons, in treating adenitis, did not rely solely upon the knife; they treated the general condition of the patient, but since that phase of the subject had already been discussed, he would say little upon it. Speaking, then, of the local surgical treatment, he said that the first question in a case of intumescent glands was, had we to deal with an acute or a chronic complaint? Acute glandular affections had to be dealt with generally in a different manner from the chronic. If, after giving attention to the etiological indication we did not succeed in causing the intumescence to disappear, particularly if there were fever, we should suspect pus in the centre of the gland. If the glandular intumescence were steadily increasing, and the signs pointed to hidden pus, the tension should be relieved by incision. The popular method was to apply poultices. He did not object to it as a tentative measure, but it should not be persisted in long. If the glandular disease were deep seated and the physician feared he might injure important vessels in making his incision, let him lay the knife aside after passing through skin and superficial structures. If doubt were felt as to the direction of the pus, insert the hypodermic needle. Finding pus, before withdrawing the needle introduce alongside of it a grooved director, then withdraw the needle and along the grooved director introduce the dressing forceps and dilate. It was good practice to insert the little finger and break down partitions, insert a drainage-tube and apply the dressing. There was a form of glandular swellings, occurring oftener in adults than in children, in which neighboring glands broke down one after another. Here he found it quicker and safer to dissect out the whole mass while treating the first abscess. If pus came in contact with the wound, do not close it at once, but pack for three or four days with iodoform gauze, then if the wound were in good condition, remove the gauze and suture.

Chronic forms of glandular swellings varied in their degree of acuteness, and should be treated accordingly. If they occurred in connection with diphtheria, scarlet fever, etc., strict attention must be given the mucous or cutaneous surface from which absorption had taken place. If pus were present in the gland, it should be evacuated.

Speaking further of the treatment of chronic glandular affections, Dr. Gerster said he thought all glandular troubles might be divided profitably into two classes; one in which the positive element was pyogenic infection, the other in which tuberculosis was the cause. In the first class, proper treatment directed to the exciting factor would often effect a cure, especially if aided by local measures. The ice-bag was of benefit, applied early; it might do harm after pus had formed, and at this stage patients usually found it uncomfortable. There was a time when we could not decide whether suppuration had taken place or not, and here he found the application of a poultice to be proper.

In chronic forms of lymphadenitis of pyogenic origin great disfigurement sometimes resulted when they were left to the tender mercies of nature; in girls, where the cosmetic effect had to be considered, the surgeon could do much to prevent disfigurement by aspirating the abscess, and washing it out on different occasions until it ceased to refill. Usually four or five times answered. In children whose general condition was growing lower from the presence of chronic suppurating lymphadenitis, he dealt radically with the source of infection; reopened the abscess and scooped away the pyogenic tissue.

In the case of tubercular glands in children, one might think there was suppuration and fluctuation when there was not. Aspiration would decide. He believed that all forms of tuberculosis in the human body were spread through the intervention of the lymphatics; that the glands became the deposit of the germs, and from there they spread. An early diagnosis was not always possible, but where the glands became solid he looked upon it as a warning note and removed them if it could be done with safety to the patient. If allowed to break down, and communication took place with the air, hectic would develop, blue tissue would be seen, ugly scars form. The blue, non-viable tissue, should all be removed by scissors and forceps and adjacent enlarged glands be extirpated. He emphasized the importance of cleanliness in all operations, particularly in aspirating and washing out glandular abscesses.

Dr. B. F. Curtis thought that in cases of glandular enlargements of the size of a hen's egg to the size of the fist there was ground for difference of opinion as to treatment. Those surgically inclined would probably use the knife; those medically inclined would probably try medicine. He agreed with Dr. Gerster, that both means should be employed. Encouraging surgical treatment was the danger of tubercular infection. The size of the tumor would have considerable influence, particularly in children, who bore loss of blood and prolonged operations poorly. Every case had to be decided on its own merits, but the majority of the doubtful cases would eventually, he thought, fall to the surgeon.

Relative Frequency of Adenitis in Childhood.—Dr. W. W. Vanarsdale said he had treated about fifty-five cases of lymphadenitis in children the past year, including all kinds excepting syphilitic ones. The percentage of cases of cervical adenitis in children had been twenty-three, in adults, 7.7. But where the diagnosis had been made of tubercular adenitis there had been a greater number of cases in adults—six per cent. in children, eleven in adults. Of what had been spoken of during the evening as chronic septic adenitis, twenty-one per cent. of the cases had been in children, against twelve per cent. in adults.

Dr. Henry Koplik had found that half the battle in treatment consisted in diagnosis. Regarding etiology, there were some cases in which it was somewhat uncertain, especially those called benign adenitis. Here the glands did not become very large, and after the acute attack had passed away, still remained large, belonging, perhaps, to the class spoken of as hyperplastic. They were not tubercular, caused no trouble, but for cosmetic reasons their presence was objected to by parents and patients. Dr. Koplik drew special attention to syphilitic lymphadenitis, which up to the present had received comparatively little discussion. The etiology was important in connection with treatment. He thought scrofulous and tubercular cases might well be grouped together. They gave about the same picture, although in both the tubercle bacillus might not sometimes be found.

Officers Elected.—*President*—Dr. A. L. Loomis; *Vice President*—Dr. E. L. Keyes; *Trustee*—Dr. F. A. Castle; *Treasurer of the Trustees*—Dr W. F. Cushman; *Committee on Admissions*—Dr. C. C. Rice; *Committee on Library*—Dr. C. A. Powers. A number of nominees had withdrawn.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

DR. STEPHEN MACKENZIE ON ANÆMIA—THE ARTIFICIAL CULTIVATION OF TUBERCLE BACILLI—RECENT APPOINTMENTS AT ST. BARTHOLOMEW'S HOSPITAL—DEATHS OF MR. JOHN MARSHALL AND OF MR EDWARD BELLAMY.

LONDON, January 10, 1891.

ON Monday evening last Dr. Stephen Mackenzie commenced the delivery of the course of Lettsomian Lectures at the Medical Society of London, taking for his subject, "Anæmia: its Pathology, Symptoms, and Treatment." After discussing the composition of the blood, under the two heads of "plasma" and "formed elements," Dr. Mackenzie proceeded to consider the sources, life-history, and fate of the red blood-corpuscles. The spleen, he said, appeared to have (in the human subject) a limited capacity of blood generation in extra-uterine life. Referring to the divergent views on the subject, he said that much of the difference of opinion that existed had arisen from the kind of animal that had been the subject of experiment, for the relative share taken by the cytogenic organs in blood-formation differed considerably in different classes. As to lymphatic tissue, it had long been held that—whether arranged as glands or occurring in patches of adenoid connective tissue—it was the chief producer of colorless corpuscles. It was also thought that lymphatic glands might have the power of transforming colorless into red corpuscles, but that this power, if it existed, was very sparingly exercised in general was evidenced by the well-known characters of lymph. It was, however, possible that when lymph was delayed in its channels it might bring about the conversion of leucocytes into red corpuscles. It had recently been suggested that the thyroid body, if not in ordinary circumstances a blood-producing organ, might take on this function when all the latent capacity of blood-formation of the organism was called into play. The evidence on which this opinion was based had been shown by Gibson to be very meagre and inexact, and the lecturer thought it might be accepted that the thyroid gland had no hæmopoietic functions. He summed up the sources of blood-formation by remarking that it practically amounted to this: That in post-embryonal life the red blood-corpuscles had their birthplace in the marrow, though a slight power of hæmogenesis might exist in the spleen, and possibly in lymphatic structures.

Turning then to the other end of the life of the red blood-corpuscles, Dr. Mackenzie observed that the life of every cell was limited, and the red blood-cell was no exception to this universal law. We had abundant indirect evidence of destruction of red corpuscles in the formation of bile, the pigment of urine, and other pigments derived from hæmoglobin. Quincke had estimated the average life of a corpuscle to be about two weeks. The most active destruction appeared to take place in the portal system of blood-vessels. As to the colorless or white corpuscles (leucocytes), Dr. Mackenzie remarked that among the important advances in our recent knowledge of the blood, was the recognition that the colorless corpuscles differed much among themselves—certainly as regarded their morphological characters, and probably as regarded their physiological functions. Beside the red and colorless corpuscles, the blood also contained some smaller formed elements, concerning the origin, nature, and functions of which there were as many theories as the bodies themselves had received names. The so-called "invisible corpuscles of Norris" had been proved by the researches of Messrs. Ernest Hart and Gibson to be red corpuscles decolorized by the method of preparation.

The functional activity of the blood depended upon the amount of hæmoglobin contained in the red corpuscles. Osler had well summarized the variations which took place in the hæmoglobin contents of the red corpuscles as follows: 1. In chlorosis, the hæmoglobin was reduced out of proportion to the reduction of the corpuscles, so that the individual worth of each red corpuscle in coloring matter might be greatly lowered. 2. In ordinary anæmia from hemorrhage, or from organic disease, the average worth in hæmoglobin of each corpuscle usually remained unaltered, and the percentage of coloring matter corresponded with the percentage of the corpuscles. 3. In certain cases of pernicious anæmia, the interesting fact had been ascertained that the percentage of hæmoglobin was increased, and the anæmia was thus in reality not so great as the reduction in the number of corpuscles would appear to indicate.

The classification of cases of anæmia which had been adopted by most writers on the subject was into: 1. Secondary and symptomatic anæmia; 2, primary and idiopathic anæmia. The lecturer said he considered that all cases in which anæmia was not symptomatic should be regarded as idiopathic. The latter term was, as was well known, first employed by Dr. Addison for that particular form of anæmia of which he gave such a masterly description. It had been argued that the term should be restricted to the class of cases described by Addison. Dr. Mackenzie urged, however, that the progress of our knowledge rendered it advisable to enlarge its meaning so as to embrace all primary anæmias, and to use it as a generic term including several species. Of these species, two were well defined—chlorosis, and the form described by Addison, which had by common consent come to be called "pernicious anæmia," and which name, he thought t was now useless to oppose. Probably there were other forms of idiopathic anæmia to which he should have to allude in subsequent lectures.

At the last meeting of the Pathological Society, Sir Hugh Beevor showed several tubes containing cultivations of tubercle bacilli in different media. On potato, the growth first became visible in from twenty to thirty days, but the growth did not progress so well as on other media; the cultures were kept at a temperature of 82° F. In the cultures in broth, both with and without glycerine, the growths started more quickly than on agar-agar or on potato, and further, in glycerine broth cultivations could progress, though only slowly, at as low a temperature as 60° F., whereas, on potato and on agar-agar no growth could be obtained at this temperature. The addition of corrosive sublimate in the proportion of $\frac{1}{200000}$ to broth, had hardly any deleterious effect on the growth of the tubercle bacilli, whereas $\frac{1}{300000}$ would prevent the development of the bacillus of anthrax. On agar agar without glycerine it was very difficult to get tubercle bacilli to start, but when glycerine was added, the growth was most luxuriant at suitable temperatures. From his observations, Sir Hugh Beevor said he considered it probable that the conditions in nature under which the tubercle bacilli could flourish were much more diversified than had been previously suspected.

Somewhat unusual events have recently taken place at St. Bartholomew's Hospital and have caused some comment, considering that the hospital is one of the largest in London and the medical school attached to it is the largest of any of the metropolitan schools of medicine. Although the Physician Accoucheur (Dr. Matthews Duncan) died last autumn during the vacation, no steps have been taken to fill the vacancy thus occasioned until quite lately. In the meantime the Assistant Physician Accoucheur resigned, thus creating a second vacancy. The senior appointment has been filled by the election of Dr. Champneys, hitherto obstetric physician to St. George's Hospital The junior appointment has been provided for by promoting Dr. W. S. A. Griffith, the obstetric tutor. To go to another hospital to obtain a physician accoucheur is not absolutely unprecedented, as witness the example of Dr. Robert Barnes, who held a similar appointment at three hospitals in succession, viz., The London, St. Thomas's, and St. George's. The circumstances, how-

ever, are certainly unusual, as in most cases such a procedure is adopted only when there is a dearth of local talent. Dr. Champneys has made his mark as an obstetrician, and is an old pupil of St. Bartholomew's, but his "translation" from St. George's will come as a surprise to many.

Among recent deaths I have to chronicle those of Mr. John Marshall, President of the General Medical Council and formerly President of the Royal College of Surgeons, and of Mr. Edward Bellamy, senior surgeon to Charing Cross Hospital and the namesake of the author of "Looking Backward."

AMPHITHEATRE OPERATIONS.

To the Editor of the Medical Record.

SIR: Referring to Dr. Newell's remarks in your issue of the 17th inst. upon "Amphitheatre operations," allow me to suggest that in cases where it is important to have such operations, together with aseptic conditions, a plate-glass chamber could be constructed for use in the larger amphitheatres, which could be made thoroughly aseptic, and could be warmed, and ventilated with sterilized air.

In such chamber an operation could be performed before a class without harm from septic sources to the patient, with as good opportunities for observation as are now possible to most of the members of a large class. Such a chamber could be constructed so as to be placed in position or removed at will. Its floor and walls two or three feet high should be metallic, as should also the door, and the upper portion, consisting of glass, could be so constructed as to be placed in position or lifted and remain suspended when not in use.

Yours truly,
RICHARD DEWEY, M.D.

Illinois Eastern Hospital for the Insane.

TREATMENT OF INGROWING TOE-NAIL.

To the Editor of the Medical Record.

SIR: In your issue of January 3d, you published a review of Wood's "Medical and Surgical Monographs" for 1890, and of the "Treatment of Ingrowing Toe-nail." You say: "The method described is that of Dr. Th. Anger, and consists in the removal of an oblong piece in such a way that it includes all the diseased tissues, exuberant ulcers, the border of the nail, and the corresponding matrix, at the same time leaving a flap to cover the cut surface, and shorten the period of healing by granulation. In that, the operation has an advantage over that of cutting, of which the author seems not to have read."

Though I have read the descriptions of the operations referred to, and many others, I believe the following procedure will be found preferable, for the ensuing reason. The operation is painless and bloodless, and the cure is almost immediate. My first case, which was operated upon more than seven years ago, was a baker about thirty years of age. He had been lame a few years, owing to the painful condition of his toe. He would not submit to any operative interference requiring an anæsthetic. I convinced him that the procedure proposed would not pain, and that he could interfere at any time, if he wished to do so.

The diseased toe was washed with a two and a half per cent. carbolic solution as well as the pain would permit. With the point of a scalpel, the nail was cut through, from before backward, along a line parallel with, and about 5 mm. from the visible lateral border, on the affected side. While cutting through the nail, and everting the offending segment, so as to keep the cut as broad as possible, the matrix was cut away (or rather scraped away) from the under surface of the segment with every stride. Having arrived near the root of the nail—cutting, everting, and scraping—the direction of the cut in the nail was continued at a right angle down to the imbedded lateral border, the nail being dissected from its bed meanwhile. In rounding this corner, the patient complained, for the first and only time, of a momentary sting, as if pricked with a pin. The forceps were then applied to this corner, which was turned outward or everted, and the segment, having been loosened from its attachments in the inflamed groove, was drawn out. The end of the segment removed, where it had projected into the pulp of the toe, so as to be palpable under the skin in front, was gangrenous.

The ulcerated wound was washed out with carbolic lotion, and the toe wrapped up in absorbent cotton. This was the entire dressing. He put on his shoe immediately, and walked fairly well. The next morning he was seen running down the hill to his place of business. Until the day he died, five years later, he never suffered from that toe again. I have had many opportunities for testing the above procedure, and have found it even more gratifying in the immediate results than in the above case.

If a shoe be chosen that will not press on the side of the toe, to such an extent as to crowd the fleshy portion over on top of the nail, and the corner of the nail is kept trimmed, no relapse will occur. I believe I have abundant evidence for that fact. As little of the sound portion of the nail as possible should be removed. The flatter and stronger the nail is, the better; because any attempt at thinning the nail only weakens its resistance to the oppressing phalanx, and, thereby increasing the curve, drives the lateral borders deeper into the fleshy grooves at the sides. I have never attempted this procedure in any of my dispensary clinics, for the patience and time requisite are more than consistent with the routine of such a place.

It is sometimes difficult to persuade a patient that the knife, scissors, and forceps will not hurt him; but by agreeing on a fee equal to that for reducing a dislocation, and then promising a painless, bloodless operation at the risk of the fee, the work is soon begun. He must be impressed with the fact that he must complain the moment he is hurt, or never.

The patient, in my experience, after smiling and grinning his approval and satisfaction during the operation, puts on his shoe, prances up and down the floor (at my request) to be convinced of the relief obtained; and then, with surprising alacrity, he exultingly produces his fee. This I have ever looked upon as the best indication of the immediate success of the method. Unwilling to enter at present into further details, the literature, and theories of the subject, I submit the above to your consideration. Yours very truly,

J. J. E. MAHER, M.D.

New York.

New Instruments.

AN ANTISEPTIC SYRINGE FOR HYPODERMIC INJECTION.

By JOHN BLAKE WHITE, M.D.,
PHYSICIAN TO CHARITY HOSPITAL, ETC.

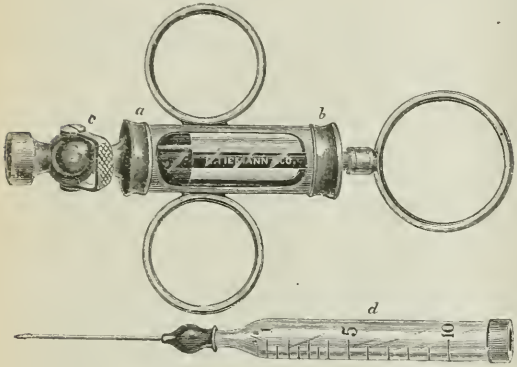
SINCE the first introduction into practice of hypodermic medication by Dr. Alexander Wood, of Edinburgh, this swift, sure, and economic method of obtaining the effects of remedial agents has grown steadily and justly into favor. Though this resort has been so long in use, and the numerous imperfections about the means employed so fully recognized, no attempt has hitherto been made to remedy defects. Meantime the great science of bacteriology has arisen, and in its marvellous advance is making peremptory demand for the institution of safeguards around the direct introduction of agents into the blood by subcutaneous injection.

Everyone abreast with the pathological discoveries of

the day, and therefore necessarily interested in antiseptic medication, will doubtless welcome into use the improved hypodermic syringe with antiseptic attachment herewith prefigured.

The important advantages claimed for this over other instruments of its kind must be manifest to everyone at a glance. No elaborate description therefore appears necessary in this act of first bringing it into notice.

The most striking peculiarity about this instrument consists in the fact that, in order to draw up fluid into the syringe for hypodermic use, the act of suction is accomplished in an independent air-chamber attached, *b*. These two chambers or barrels are so precisely adapted in capacity to each other, that ordinary use of the piston in the upper or suction barrel *b* can never cause surplusage of fluid in the lower barrel, or syringe proper *d*. Thus the important feature of keeping the fluid contents of the syringe free from contact with, and from possible contamination by, the piston is insured.



It will be further noted that the two barrels *b* and *a* are distinctly separated by the neat interposition of what may be described as a purifying chamber *a*, attached to which is a new and convenient form of stop-cock *c*. Through the antiseptic chamber *a* all air concerned in the mechanical working of the syringe is forced to pass a minute filter, which is kept impregnated with one of the several recognized and effective antiseptics. There is no want of proof that more or less grave consequences are likely to ensue from admission into the system of even the minutest atom of air containing septic micro-organisms. The antiseptic chamber *a* is therefore placed between the two barrels to intercept zymotic germs, which are apt to intrude from countless sources, and so prevent their entrance into the circulation through the act of hypodermic injection.

The lower barrel of the syringe *d* can be readily detached from the rest of the instrument in order to cleanse it, and this cleansing process after use is of too great importance ever to be omitted.

The original device described above is the one I am in the habit of employing in the frequent introduction of my particular forms of hypodermic and intra-pulmonary injections, and I certainly have every reason to appreciate more and more its manifold advantages.

Sundry conveniences of a novel character about the construction of the case in which the instrument is contained, cannot fail to claim approval. I invite attention to them, as they, no less than the very unique instrument, reflect great credit upon the artists who have so faithfully put my designs into execution.

1013 Madison Avenue.

Another Medical Society Wanted.—According to some Western medical journals there is great need for another medical society in or near Chicago, the present one being notoriously inadequate to the wants of the profession.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from January 18, 1891, to January 24, 1891.

Ives, Francis J., Captain and Assistant Surgeon. By direction of the Secretary of War, relieved from temporary duty at Pine Ridge Agency, S. D., to take effect when his services can be spared by the Commanding Officer of the troops there stationed, and will then return to New York City and resume his leave of absence. S. O. 17, par. 9, A. G. O., Washington, D. C., January 21, 1891.

Gardner, Edwin F., Captain and Assistant Surgeon. By direction of the Secretary of War, relieved from duty at Pine Ridge Agency, S. D., and will proceed without delay to Fort Riley, Kan., and report for temporary duty to the Commanding Officer of that post. S. O. 17, par. 10, A. G. O., Washington, D. C., January 21, 1891.

Official List of Changes in the Medical Corps of the United States Navy for the week ending January 24, 1891.

Persons, Remus C., Surgeon. Ordered to the Concord, February 10th.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending January 24, 1891.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	10	3
Scarlet fever	146	20
Cerebro-spinal meningitis	1	1
Measles	453	33
Diphtheria	103	22
Small-pox	0	0
Varicella	13	0
Pertussis	3	17
Croup	0	0

Mortality in European Armies.—Some curious details have just been published on the relative mortality among European troops during time of peace. The Spanish troops give the highest standard of mortality, and that not because the soldiers are weakly so much as that the sanitary arrangements are inadequate or neglected. The deaths represent 13 in 1,000. Russia comes next; but the interval is large. The mortality is about 9 in 1,000. Then follow the Italians, with 7.74. So far the series is almost as a shrewd observer might guess it would be. What follows is more perplexing and more interesting. Austrian, French, English, Belgian, and German—that is the order. In round numbers, the deaths of Austrian soldiers are in the 1,000, 7; of French, 6; of English, a little over 5; of Belgian, a little over 4; and of Germans, a little under 4. The ravages of consumption are enormously greater in the case of English soldiers than of any other nationality, and in this case the French are the most favored.—*Hospital Gazette.*

Compulsory Treatment in Hospital.—The *Times and Register* states, that Judge Thayer, of Philadelphia, says that no person can be legally compelled to leave his home and be treated in a hospital, even if he have small-pox or other contagious disease; it is the right of the patient to stay in his home, if he so desires. It is reported that, through ignorance, physicians sometimes aid in compelling patients to leave their homes.

Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 39, No. 6.
Whole No. 1057.

NEW YORK, FEBRUARY 7, 1891.

$5.00 Per Annum.
Single Copies, 10c.

Original Articles.

THE NEW YORK ACADEMY OF MEDICINE—WHAT IT IS AND WHAT IT MAY BE.

INAUGURAL ADDRESS.[1]

BY ALFRED L. LOOMIS, M.D.,

NEW YORK.

FELLOWS OF THE NEW YORK ACADEMY OF MEDICINE: When, two years ago, my distinguished predecessor introduced me as your President-elect, I stated that history alone must say with what degree of success the work which he had so ably begun will be continued. As a slight contribution to that history, permit me to briefly review the records of these two years.

On assuming the presidential chair I found your trustees already in possession of a building fund of $98,300, a fully organized Subscription Committee at work to increase this sum, and a Site Committee appointed by the Council, whose reports of available locations, however, had been met by such diverse opinions that no decision had been reached. The unanimous recommendations of a second committee, which had been appointed by the Council in November, 1888, whose field of search had been limited to the twenty blocks above Thirty-fourth Street between Park Avenue and Broadway, in favor of the present site of our building, met with unanimous approval as early as December 7, 1888. Yet it was only after many discouragements, with great vexation of spirit, and considerable pecuniary loss to some members of the committee and their personal friends, that, on February 26, 1889, the Council ratified the purchase of the present site for $90,000. Ten days later, on March 7th, the formal approval of the Academy was recorded, and at a meeting of the Council, on the 26th of the same month, Drs. Jacobi, Herrick, Peters, Castle, and your President were appointed a Building Committee, to whom all details of the work were to be referred. The organization of this committee, which was completed at their first meeting by the election of Dr. Loomis as chairman, and Dr. Castle as secretary, was followed immediately by an invitation extended to Messrs. J. C. Cady, C. C. Haight, and S. R. Robertson, architects, to submit plans and elevations for a new Academy building. This invitation of March 27th met with such prompt compliance from these gentlemen, that within less than a month the Committee had made such careful comparisons of the submitted plans, under the personal demonstration and explanation of their respective authors, as to reach a unanimous approval of those presented by Mr. S. R. Robertson, and upon April 15th we were permitted to indulge in mutual congratulations upon the appointment of Mr. Robertson as architect of the new building.

A second month was consumed in the preparations of specifications, in suggesting desirable changes in plans, and in arranging contracts, until, upon May 7th, with all contracts signed for a sum-total of $149,000, pick and spade made the first stroke in the work, the completion of which we have so recently celebrated in the dedication of this building. The 15th of July witnessed the fixing of the first foundation-stone, and on the 2d of October, 1889, we had the pleasure of formally laying the corner-stone, assisted by some of the most distinguished laymen of our city.

The sale of the old Academy building for $60,000, early in May, 1890, necessitated the removal of our Library before the completion of our new building; but as the stack room had been completed and rendered safe for its reception, its removal was accomplished during the latter part of the same month. Notwithstanding the many last things that always arise in connection with such a work, and the annoying details and disappointments which seem to be unavoidable, the building was finally completed, at a total cost of $151,000, within eighteen months from the commencement of the excavation.

Several meetings had been held in the new building before this—the first being that of the New York Pathological Society, on September 24th. The first general meeting of the Academy in its new building was held on October 2d, just one year from the date of laying the corner-stone, and to Dr. Charles McBurney belongs the honor of having presented the first paper read before the Academy in its new building. Although regular meetings have been held since, it was not until November 20th that the building was thrown open to the public, at a general reception, and assumed its position as the headquarters of the medical work of the city.

Notwithstanding the confusion of house-moving, the Academy has missed but one meeting, while at the thirty-five meetings that have been held during the past two years sixty-five papers have been read and received valuable discussion. This work of the Fellows has been of a high order of merit, and has done much to increase the already enviable reputation of this body for thorough scientific work. A most gratifying feature of recent years has been the increasing number of the younger members who have manifested not only by their regular presence at the meetings, but by participation in the discussions and willingness to contribute to the scientific work, an unusual interest in the welfare of the Academy—an interest which promises that the future shall find earnest and faithful men to whom the honor and well-being of this Fellowship will come as sacred trusts.

Within this same space of two years the various sections of the Academy have held over one hundred meetings, at which more than that number of papers have been read and discussed. Such a record shows a marked increase in the amount of work being done in this Fellowship. An especially pleasant feature of the past year has been the assumption by each Section, in order, of the charge of one regular meeting of the Academy each month. Such a course has brought the Sections into closer relationship with the Academy, has stimulated them to more careful work, and excited a keener interest in the regular Section work.

It is to be hoped than an honorable ambition and generous rivalry will incite them to present the best work of the year when they appear in the general meeting of the Academy.

Our numerical growth has been equally marked in all directions, one hundred and thirty-five resident members have been received into our Fellowship, while the reaper's sickle has taken but few of our number. Nearly two thousand volumes have been added to our reference library, in addition to the ten thousand and odd numbers of medical journals which have passed through our reading-room each year. A conservative estimate of the property of our Academy to-day makes its value not less than

[1] Delivered at the meeting of the New York Academy of Medicine, February 5, 1891.

$4co,ooo, of which $280,000 is in real estate, $70,000 in library, $15,000 in furniture, and $33,000 in invested funds. Against this we have a debt of only $30,000, with a membership of seven hundred resident Fellows.

With such a present, what should be, what must be, the record of the two years upon which we enter to-night?

Both '91 and '92 will bear the stamp of what *we* do.

Opportunity implies obligation, and power develops by direct evolution into action. We cannot shelter our indolence under the cloak of yesterday's successes. Seven hundred earnest, faithful physicians should form a centre of power in all matters pertaining to the health of this city and State that no civil authorities could withstand.

If this Academy could find in every member a firm and loyal follower of its standard, ready to uphold it, both in this hall and in public, ready to advocate its claims to be the authority, in matters medical, among all his patients and friends, the time would not be far distant when we could send our representatives to the halls of legislation, and demand, in the name of the people, that this must be done, and the other left undone.

We do not make such claims in arrogance, but in the just consciousness that the medical man knows no party or politics, and that he has gone beyond even the fundamental principle of our Constitution. We demand not "the greatest good for the greatest number," but "the one good for all." That we may the more effectually assume this position this Academy must be not the best representative of medical men in this city, but it must be *the* representative of *all* medical men.

In my address two years ago, I spoke of the diffusion of forces among the profession, and the misfortunes attendant upon the attempt to cover many fields. There is no need of argument to prove that all the medical talent and scientific work in our city should be centralized. With an average of more than three meetings each week, distributed among twelve Sections, in addition to the general meetings, abundant opportunity is certainly offered for the presentation of all the valuable work that finds outlet in this direction. Nor is even this our limit of growth; we offer a home and a parent's fostering care to those who are interested in any special branch of medical work. Is it not more creditable to be a vital and valued member of one grand herculean organism, than an isolated and powerless unit, a Liliputian anatomy?

Would not the Pathological Society, for example, be more honored in being the Pathological Section of the Academy, than remaining an independent organization? It would by such a union not lose its character as a body devoted to special research, but it gains the honor of being a necessary part of a great scientific whole. Such changes imply, of course, the putting aside of self, the doing away with little bitternesses and anger, malice and clamor, and rising to that higher plane and purer air where the cry of pain and anguish are our bugle-calls to duty, and honor and human sympathy become stronger than self. The jealousies and intolerance of cliques is fast giving place to liberality and good-fellowship. The links which bind us together are being forged with greater strength, every Fellow is realizing more and more that there is resting upon him the good name and fair fame of our Fellowship, and that he should bear himself with greater pride that such high privileges have been intrusted to his care.

It is told of the Greeks that they arranged their soldiers in families, for then each man fought not for Greece alone, but for his friends, counting it joy to give his life for those he loved. If friendship makes better soldiers, duty as well as inclination bids us to be better friends. Let us then cultivate more largely friendly relations with each other by frequent social intercourse. To this end it seems to me exceedingly desirable, and I would propose, that one evening each month, in addition to our regular meetings, or, if it seem better, a portion of our regular meeting each month, shall be set apart for this special purpose.

While both recognizing and urging the expansion of our activities in every appropriate direction, I desire to suggest two advances which seem most plainly to demand immediate attention. In the practical line there should be established by the Academy a Nurses' Bureau, where only reliable and carefully selected persons should be allowed to register. It is not fitting that personal gain should be the basis of such registration, as the personal experience of every Fellow must convince him is the case in most of the existing nurse agencies. An examining committee from our Fellows should be appointed, to systematize, control, and decide all matters relating to such a Bureau. The other and more important advance which I desire to propose is the establishment of a volume of "Transactions" of the Academy. Such a volume should consist of the aggregation of monthly issues of a bulletin somewhat after the plan adopted in the *Johns Hopkins Monthly Bulletin*, such bulletin to be edited by a competent corps of Fellows, and conducted upon such an impartial basis as to afford a permanent record for all the best work done in our Fellowship—a filter to protect the hurried practitioner from wearying himself with simple recitation and useless speculations. I am convinced that such a paper, issued under the authority of this body, would not only receive such support from the profession as to make it sustaining, but what is of far greater importance and value, would afford such honorable recognition of merit as to stimulate every worker among them to sift his own work more carefully to make it all of higher value, and to present publicly only what is fully worthy of a permanent place in medical literature. All these advances imply labor, and, in a measure, a labor of love. But here, as elsewhere, the past gives pregnant promise for the future. The quiet peace of these halls, the stately beauty of this building, give more lasting praise than words can do to those who have borne the heat and burden of the day; a praise that is justly due to all who have taken part in this work, and which must stand as more or less of a reproach to those who have contributed neither silver nor sympathy; but who now come to enjoy the results with all the complacency of fellow-laborers, even while the confession is on their lips, "This is the first time I've seen the building."

To the faithful ones my public expressions of praise can be of but little value, yet for justice' sake, if for no other, this acknowledgment of their service is due to all, and especially to Dr. F. A. Castle, whose faithfulness to detail, as well as comprehensive grasp of the whole work; whose patience and perseverance, whose indefatigable activity and hard work, have done more than any one to make our house a home. Nor can I fail to acknowledge the deep obligation we owe to Mr. Robertson, our architect, who has not only given us his best thought in planning our new building, but by his painstaking care and judgment in awarding contracts assumed the unusual labor of both architect and contractor, and by so doing has diminished by many thousand dollars the cost of our building.

And now for the years that are before us. Shall the Academy be the power which is to elevate our profession to a higher social and intellectual plane than it has reached in the past? Shall it take the lead in the many rapid transformations that are taking place in every department of science? Shall it be the guardian to preserve and sustain an ideal medical spirit in the profession of our city, or shall it be simply a mutual admiration society for the delectation of the few.

It will be, gentlemen, what you and I make it. If we hope to utilize the great privileges and benefits which have come to us, and do our duty to ourselves, our profession, and the commonwealth, we must realize that words are not work, that talk is not truth, that fancies are not facts.

Let every Fellow remember that great gifts demand great returns, and that the Academy stands ready to mete out with equal hand both rewards and reproofs.

Thanking you, gentlemen, for this second honor, and feeling that I can better express my appreciation of your unusual confidence by action rather than by words, I pledge that my earnest and best efforts shall be exerted in the future, as in the past, for the welfare of our Academy.

PURPURA HÆMORRHAGICA.

By GEORGE ROE LOCKWOOD, M.D.,

NEW YORK.

As ordinarily described, purpura hæmorrhagica, or morbus maculosus, is a disease characterized by spontaneous hemorrhages, not only appearing subcutaneously as in simple purpura, but also from the mucous membranes, and more rarely into the serous membranes, internal organs, and joints. This disease was first described by Werlhof, in 1775, and is known as Werlhof's disease.

The patient usually presents prodromal symptoms which may precede the actual onset several days or weeks—malaise, chilly sensations, loss of appetite, and possibly a little rise of temperature being the prodromata most commonly seen. In other cases the disease begins abruptly.

When the disease is fairly developed we have appearing a purpura, the spots varying greatly in size, usually appearing upon the extremities, though they may be generally distributed. There are hemorrhages from various mucous membranes—from the nose, mouth, bronchi, stomach, intestines, and kidneys. These are usually moderate in severity, but may be profuse enough to endanger the life of the patient. There are usually constitutional symptoms, chilly feelings (rarely amounting to a rigor at the onset), fever of slight intensity, loss of appetite, and prostration. The gums are normal or slightly swollen, they may bleed, but the teeth are not loosened as in scurvy. The liver and spleen are slightly enlarged; there may be pain and swelling of joints, as in peliosis rheumatica.

Such a disease runs a course of two to four weeks, and tends toward recovery, though relapses are to be expected, and by these relapses the disease may be protracted weeks, months, or years.

In some cases in children the disease manifests itself by purpura, pain and swelling of joints, abdominal pain and tenderness, with tenesmus and bloody stools. It is characteristic of this form of the disease for the patient to suffer from a number of these attacks at short intervals.

Letzerich, in a recent monograph ("Ætiologie und die Kenntniss der Purpura Hæmorrhagica, 1889"), has given us a careful bacteriological study of the disease. He had attended a girl, twenty-five years of age, suffering from Werlhof's disease, in whom a generally distributed purpura, hemorrhages from intestine and kidney, slight fever, prostration, enlargement of liver and spleen were the symptoms noticed. Bacterial examinations carefully performed showed in the purpuric spots the presence of long bacilli capable of growth in gelatine, the pure cultures of which injected into the abdomen of rabbits reproduced the original clinical symptoms in all of twelve cases, and in these the same bacilli were found, identical with those of the pure cultures injected. An examination of the purpuric spots in the rabbits showed dilatation of the capillaries, emigration of white cells, and rupture of the capillary wall allowing of escape of red cells. The capillaries were found filled with the bacilli, with abundant spore growth. (The bacilli and spores had been previously noticed by Petrone, who considered it to be a mixed infection.) Upon squeezing the section little plugs resembling hyaline casts, containing bacilli, emerged from the capillaries, and these structureless casts he considered as the result of the action of the bacillus or its products upon the fibrino-plastic elements of the blood.

Very remarkable was the appearance of the liver in these rabbits. The organ was regularly enlarged, the portal capillaries were almost occluded by an extraordinary growth of the bacilli. Letzerich considers the liver to be the breeding-place of the bacilli in Werlhof's disease, the liver being to this disease what the spleen is to malarial fever. If he be correct in this view it helps explain both the scattering of the lesions—a bacterial embolism of the capillaries—and also the tendency of the disease to relapse, as well as the periodicity of the relapses seen in some cases. Letzerich himself was attacked by the disease, from which he with difficulty recovered. He attributes his infection to handling his cigar while working at his experiments. The results of other experimenters before the time of Letzerich do not stand the tests of modern requirements and must be excluded.

Aside from these cases in which the disease runs this mild course, we meet with cases in which the same symptoms are present, but in an acute fulminating form. The patient is overwhelmed by the violence and the rapidity of the symptoms, and dies from acute anæmia, internal hemorrhages, or from symptoms of a septic infection. These cases are but briefly referred to, if at all, in the text-books, and it is to these that I would invite your attention. Great care was taken in the selection of these cases to exclude the other forms of hemorrhagic disease to which mention will presently be made.

The first case I have to report is that of a young lady, aged nineteen, living in affluent circumstances. For several years past she had suffered from a moderate degree of anæmia, and at one time was said to have had malarial fever. There was no other previous morbid history. Her father, when a boy, would bleed severely from slight causes, but further history of hæmophilia could not be obtained. Her illness began on March 7th, though for several days previously she had been ailing from a slight laryngitis.

On March 7th, at 1 A.M., she was seized by a chill and appeared very nervous, the temperature remaining normal. She was given quinine (gr. x.) and remained without symptoms till 12.45 P.M., when she had another chill, the temperature being 101.5° F. during the chill, rising to 103.5° F. within an hour, and then slowly sinking to normal. Shortly after this second chill she was attacked by a nose-bleed, which increased in severity till, by 9 P.M., it had attained an alarming profuseness. Applications of ice, hot nasal douches, insufflation and injection of styptics were vigorously employed; but while each seemed to relieve for a time, the bleeding broke forth with renewed violence after each application. Turpentine and digitalis were begun internally during the night, and continued until noon of the next day.

I saw the patient for the first time at 1 P.M. on March 8th, just twenty-four hours after the acute onset. At that time she was pale and much prostrated. Temperature, 98.4° F., pulse, 130 and dicrotic. She lay in a condition of complete apathy, but her mind was clear when aroused; the expression of the face was that of a typhoid. Upon the trunk, face, and extremities were a number of small purpuric spots. The hemorrhage from the nose still continued, and there was a profuse uterine hemorrhage, although her normal period had ceased two days previously. The gums were normal, there was no fetor to the breath. The collected blood was dark in color and did not coagulate. Careful physical examination showed no evidence of endocarditis or other appreciable disease.

Post-nasal plugging was resorted to, and the anterior nares tightly tamponed and sealed with collodion, after which the hemorrhage was reduced to a slight oozing. During the afternoon she vomited about six ounces of altered blood, which she had apparently swallowed. Small doses of morphine, digitalis, and brandy were given by mouth and subcutaneously.

By evening her temperature rose to 102.8° F., her pulse varied from 120 to 180, being weak and irregular. Her somnolent condition alternated with periods of restlessness and mild delirium, while new purpuric spots were constantly appearing. Slight oozing came through the

nasal plugs; the uterine hemorrhage continued to a moderate extent in spite of careful tamponing.

Dr. L. W. Hotchkiss saw the patient with me at this time, and the question of arterial transfusion was discussed. In view of her hemorrhagic condition, and the extreme difficulty in even checking her bleeding, it was thought advisable not to add a new source of possible hemorrhage by transfusing into an artery, as an equal amount of good might result from saline injections given by rectum and subcutaneously, without danger. Her symptoms, moreover, were more septic than anæmic. Saline solutions were accordingly administered in this way, with an improvement in her symptoms, her pulse becoming slower and stronger, the stupor less profound, and her mind more clear. The improvement, however, was merely temporary. On March 9th, at 9 A.M., the temperature was 104.8° F.; pulse, 148; respirations, 28 to 32; there was no air hunger. At this time she had a black watery offensive movement composed of altered blood. During the afternoon she became more somnolent, the stupor alternating with periods of restlessness and delirium, and new purpuric spots continually appeared. The temperature rose steadily to 106.2° F.; the pulse became extremely rapid, irregular, and feeble; she passed into a condition of coma, in which she died at 2 A.M. on March 10th, two and a half days after the onset of the disease. No autopsy was permitted.

Case II. (Halbrecht, *V. & H. Jahresber.*, 1884, ii., 268).—Girl, aged ten. Spreading purpura of arms and legs, hemorrhages from bowel, with stupor, headache, and convulsions. Recovery on fourteenth day.

Case III. (Halbrecht, *V. & H. Jahresber.*, 1884, ii., 267).—Male, thirty years. After attack of urethritis developed mild symptoms of purpura hæmorrhagica; improved, relapsed, and died. Symptoms were, general purpura, bloody diarrhœa, and vomiting of blood. Whole duration three weeks.

Case IV. (Bourrieff, *Rec. de Mém. de Méd.*, April and May, 1877, quoted *V. & H. Jahresber.*, 1878, ii., 275).—Soldier, aged twenty-two. Purpura, with hemorrhages from kidney, mouth, and lungs. Died in seven hours from hemorrhages into suprarenal capsules.

Case V. (Vaillard, *V. & H. Jahresber.*, 1878, ii., 276).—Case with hemorrhages from tonsils, epiglottis, and aryepiglottic folds. Death from asphyxia. Details not given.

Case VI. (Johannsen, *V. & H. Jahresber.*, 1884, ii., 276).—Girl, aged three. Purpura, epistaxis, and hemorrhage from left eye. Recovery ten days.

Case VII. (Barthelemy, *V. & H. Jahresber.*, 1880, ii., 263).—Male, aged forty-six. Purpura, hemorrhages from kidney, stomach, conjunctiva, mouth, and nose. Death eighth day.

Case VIII. (Sautin, *V. & H. Jahresber.*, 1880, ii., 263).—Male, aged sixty. Hemorrhages from mouth, nose, ears, bladder, and rectum. Death twenty-first day.

Case IX. (Wolff, *Berl. Klin. Wochen.*, No. 18, 1879).—Male, aged two years and nine months. Purpura, fever, collapse. Death fifteen hours; hemorrhage into adrenals.

Case X. (Peszynski, *V. & H.*, 1887, ii., 350).—Male, aged forty-two years. Purpura, blood in urine, stools, and expectoration, fever. Death twenty-first day.

Case XI. (Appenrodt, *Deutsche Med. Wochen.*, No. 39, 1875).—Child, aged nine months. Purpura, epistaxis, vomiting of blood, blood in stools and urine, apathy, convulsions. Death in four days.

Case XII. (Woodbury, *Phila. Med. Times*, September 18, 1886).—Male, aged twenty-three. Purpura, hemorrhages from nose, throat, and kidneys. Death eighth day.

Case XIII. (Shand, *Lancet*, 1879, ii., p. 79).—Female, aged eight. Purpura, hemorrhages from lungs, bowels, and vagina. Recovered on ninth day.

Case XIV. (Minich, *Philadelphia Medical Times*, May 8, 1875).—Male, aged seven. Purpura, hemorrhages from nose, mouth, and kidneys, and into parotid gland. Recovered third day.

Case XV. (Masing, *Vierteljahr. f. Dermat. u. Syph.*, 1887, p. 578).—Male, aged twenty-six. Purpura and epistaxis. Died seventh day.

Case XVI. (Wagner, *Deutsche Arch. f. Klin. Med.*, Bd. xxxix.).—Male, aged seventeen. Purpura, hemorrhages from mouth and stomach, coma. Death eighth day.

Case XVII. (Wagner, *loc. cit.*).—Female, aged twenty-eight. Purpura, hemorrhages from gums and uterus for fourteen days, then sudden increase, and died on twentieth day.

Of these 17 cases, 5 were females, 10 were males, and in 2 the sex was not mentioned. The youngest case was one year (the sex not stated). The oldest case, sixty years, a male. The average age of the females was twelve years. The average age of the males was twenty-eight years.

Of the 17 cases 13 died and 4 recovered (3 being females). Shortest duration of fatal cases seven hours; longest twenty-one days; average ten days; average duration of recovered cases nine days.

The autopsies showed hemorrhages under skin, mucous and serous membranes, swelling of the intestinal glands, hemorrhages into the kidneys and muscular tissues, enlargement of the spleen, and in two cases hemorrhage into the adrenals. In one of these latter cases the patient lived but seventeen hours (Bourneff), in the other fifteen hours (Wolff) after the onset of the disease.

In a second set of cases the course of the disease is characterized by blood-effusion into the brain, death resulting from cerebral hemorrhage.

Case XVIII. (Boucher, *Bull. de la Soc. Anat.*, 1867, No. 43).—Male, aged seventeen, with symptoms of purpura hæmorrhagica. Death from cerebral hemorrhage.

Case XIX. (Hebra, quoted *Gaz. Hébdom.*, 1876, No. 19).—Male, aged nineteen, with general hemorrhages. Death from hemorrhage into the left hemisphere.

Case XX. (Huchard, *Bull. de la Soc. Anat.*, 1874, p. 172).—Male, aged seventeen. General symptoms. Death from cerebral hemorrhage.

Case XXI. (Kurkowski, *V. & H. Jahresber.*, 1885, ii., 493).—Young man. General symptoms. Death fourth day from hemorrhage into left fossa Sylvius, pons, and ventricles.

Case XXII. (Wagner, *Deutsch. Arch. f. Klin. Med.*, Bd. xxxix.).—Girl, aged three, with general symptoms. Death from multiple hemorrhages into the brain.

Case XXIII. (Wagner, *loc. cit.*).—Male, aged thirty-one. General symptoms. Death from subdural and multiple cerebral hemorrhages.

Case XXIV. (Wagner, *loc. cit.*). — Male, fifty-eight years. General symptoms. Death from subdural and multiple cerebral hemorrhages.

Case XXV. (Züelchauer, *Berl. Klin. Woch.*, 1869, No. 17).—Girl, aged two. Diarrhœa and vomiting for two days; then purpura, collapse, and death in a few hours. Hemorrhages in medulla.

Of these 8 cases 6 were males, 4 being seventeen to twenty years; 1 being thirty-one years; 1 being fifty years; 2 were females, two to three years of age respectively.

In a third set of cases when the disease attacks pregnant women it seems to run a rapid and fatal course, causing miscarriage and post partem hemorrhage.

Case XXVI. (Puech, *Annales de Gynecologie*, xvi., 1887, p. 273).—Woman, aged twenty-one; pregnant six months. Purpura for four days, then purpura spread, developed hemorrhages from nose, gums, kidney, and stomach, with fever and delirium. Miscarriage sixth day, with post-partum oozing. Died eighth day, four days after sudden increase of symptoms.

Case XXVII. (Stroganow, *Virch. Arch.*, Bd. lxiii., p. 540).—Primipara, aged twenty six; delivery at term. Purpura, collapse, slight fever, post-partum hemorrhage. Death from collapse, twelve hours.

Case XXVIII. (Phillips, *British Medical Journal*, November 13, 1886).—Female, aged twenty-one; preg-

nant six months. Purpura, colic, epistaxis, delirium, concealed uterine hemorrhage; miscarriage fifth day, post-partum hemorrhage. Death eighth day.

Case XXIX. (Phillips, *loc. cit.*).—Female, aged thirty; five previous normal labors; eight months pregnant. Purpura; miscarriage in few hours. Post-partum hemorrhage and death second day.

Case XXX. (Phillips, *loc. cit.*).—Female, aged thirty-two; seven previous normal labors. In seventh month of pregnancy, purpura, epistaxis, hemorrhage from mouth; miscarriage in three days, with placental hemorrhage. Recovery in two weeks.

When we consider these cases together, we are struck by their similarity to the class of acute infectious diseases. The absence of assignable cause, the rapidity of the onset, the multiplicity and the scattering of the lesions, the enlargement of the liver and spleen, and the constitutional symptoms out of proportion to the local lesions found, seem to prove, by analogy, the assertion that we are here dealing with an acute infection.

If we compare these acute cases with those of the ordinary mild forms of purpura hæmorrhagica, we find the identical symptoms in each, except that in the acuter forms they are more intense and wide-spread, and accompanied by more marked symptoms of a general systemic infection, and it does seem highly probable that in both forms we are dealing with the same disease, caused by the same infection in all essential features, differing only in its intensity of action.

When we are called upon to see patients and diagnose their disorders, the fact is brought forcibly to our notice that purpura hæmorrhagica is but one of a group of diseases having two essential features in common—tendency to spontaneous hemorrhages and constitutional symptoms. In typical cases each disease of this group may present a characteristic picture, so that we can diagnose it and give to it its particular name. On the other hand, we meet with cases not typical of any one disease but having features common to several; they seem like transitional forms, and we hardly know just under which category to place them. The family resemblance of these diseases is so marked that we cannot close our study of purpura hæmorrhagica without briefly alluding to its relationship to the other hemorrhagic disorders of this group. It is not within the scope of the present paper to enlarge upon these other branches of hemorrhagic disease, but merely to suggest their mutual relationship to each other, as well as to that especial form to which your attention has already been directed.

In order either to affirm or to deny any positive kinship between the different members of this group, we must know in accurate detail the etiology and the pathological processes in each, and unfortunately, until we are able to reason in this way, our conclusions must be simply conjectures and suppositions. Still it would seem well to invite discussion upon this problem, in the hope that by a free expression of opinion we may find how much of fact there is, and how much of theory, in the apparent relationships among the members of this hemorrhagic group.

In the first place, what is the relation between purpura hæmorrhagica and *scurvy?* We find in both symptoms practically identical. A longer prodromal period and a spongy and bleeding condition of the gums are often spoken of as the only points of differential diagnosis between them; but scurvy may begin abruptly, and the gums may be normal, while we may notice in purpura hæmorrhagica long-continued prodromata, with gums swollen and bleeding. It would seem as if the condition of the gums depended more upon the previous care and cleansing of mouth and teeth, and upon the general condition of the patient, than upon any direct result of the disease. As a matter of fact we call it purpura hæmorrhagica if the patient be well nourished, and scurvy if he be poorly fed and poorly housed.

The older idea of scurvy was that it is a disease of malnutrition from use of improper food, or from absence of fresh vegetables and potassium salts, or from lack of variety in food, or from bad sanitary surroundings. The recent and the more generally accepted idea is that it is an infectious disease of unknown origin. This assumption is based on the fact that scurvy appears frequently in endemics and epidemics, without apparent reason, and on the fact that while the development of the supposed infection is favored by poor food and unhealthy dwellings, these are not essential, and its severity does not seem to be in proportion to the life-degradation of its victims. This view is ably advocated by Koch in the *Deutsche Chirurgie*, Bd. xi., 1889.

If the latter view be correct, why may not the infection be the same as the infection of purpura hæmorrhagica, the symptoms being modified by the unhealthy and poorly nourished condition of the patient, and by the fact that the infection, as a rule, is continued over a longer period of time—a chronic poisoning as it were. If the results of the infection be the same in both instances, it would seem to be a matter of but little consequence whether the actual infecting cause was identically the same in both diseases, whether Letzerich's bacillus was found in scurvy, or some other bacterium, or some ptomaine found in improper food, capable of inflicting the same mischief. A burn may be caused by an electric wire as well as by a hot iron, but in both instances we call it a burn. Why not simplify, and consider them essentially the same disease, the only difference being that scurvy is more chronic in its infection and that its course is modified by its occurrence in those whose powers of resistance and recuperation are weakened by improper nourishment and unsanitary surroundings.

As regards *simple purpura*, in which we have only subcutaneous and submucous hemorrhages, we find we have to deal with a diversity of causes, in some cases apparent in others obscure and suppositious. Upon studying the effect of these various causes we find great variety in the purpuric symptoms that they excite. In some cases we have only a moderate number of purpuric spots, chiefly seen on the extremities, accompanied by constitutional symptoms of such a mild character that they frequently escape unnoticed; in other cases we have developed a striking exhibition of spreading purpuric lesions with severe general symptoms, such as coma, collapse, and even death; while in other cases we have developed the symptoms of a purpura hæmorrhagica in its most intense form. It is interesting and instructive to note that these various types can proceed from the same cause, acting more intensely upon some patients than in others, either from a maximum of cause on the one hand, or a minimum of resistance on the other.

In the first place we have drug purpura—potassium iodide, chloral, quinine, and salicylic acid being the ordinary drugs during the administration of which a simple purpura is seen. More rarely we have internal and free hemorrhages, and even death resulting, as well as grades of intermediate severity.

Analogous to these cases of drug hemorrhages are the cases which accompany or closely follow severe infectious diseases, as acute yellow atrophy of the liver, snake-bites, typhoid fever, pneumonia, and the exanthemata (so-called black measles, black scarlet fever, hemorrhagic variola). In these cases we have the various grades, from simple purpura up to an acute hemorrhagic purpura. Henoch, for example, describes a case of the severer form as follows (*Berl. Klin. Woch.*, No. 1, 1887): "A child, five years of age, had lobar pneumonia; two days after the crisis developed large spreading ecchymoses of trunk and extremities, with fever, and death from collapse in twenty-four hours." Such cases are not uncommon, and have been explained by the majority of writers as due to the secondary infection of a Werlhof disease complicating the primary infectious disease from which the patient suffered; purpura hemorrhagica, or as Henoch calls it "fulminating purpura," complicating pneumonia, or acute yellow atrophy, or an exanthem.

If a drug like potassium iodide will disorganize the blood, or render pervious the blood-vessels, so as to allow even a fatal purpura, why may not the poison of these severe infectious diseases produce the same results without supposing an added infection of another disease? It is no argument against this view that the purpuric symptoms frequently appear after the crisis, because we know that a temperature crisis does not always mark the end of the disease (as witness heart-failure in convalescing pneumonia), but only, as Fraenkel[1] has recently demonstrated, the end of the fever-producing quality of the infecting germ.

We may have hemorrhagic disease appearing either as a simple purpura or as purpura hæmorrhagica in profound anæmia, in leucæmia, and in exhausted and cachectic conditions. We do not know whether to attribute its occurrence to blood-changes, or to changes in the walls of the small arteries.

That changes in the blood-vessels can produce hemorrhage is proved by the purpura, bloody sweating, and free hemorrhages, especially of the umbilicus in the newly born infant with congenital syphilitic changes in the arterial walls. Partridge,[2] in an interesting paper read before the Practitioners' Society, describes another form of hemorrhage in newly born infants of non-syphilitic parentage, during the first ten days of life. Such a form occurred in about one per cent. of infants born at the Nursery and Child's Hospital and at the Sloane Maternity, with a mortality of sixty to seventy-five per cent. He attributes its cause to the changed condition of functional activities and the altered circulation, allowing a brief interruption of the nutrition of the vessel-walls sufficient for the transudation of their contents.

That simple blood-changes alone will not account for all the cases is also proved by the purpura and hemorrhages seen in cases of malignant endocarditis, where we suppose capillary embolism of vegetation fragments to be the exciting cause.

Fagge[3] has reported a set of cases where purpura, hemorrhages from mucous membranes, rheumatic pains, and fever were noticed in patients suffering from multiple sarcomata. It is hard to say whether these result from the profound alteration of the blood due to the malignant disease, or whether detached sarcomatous fragments become lodged in the capillary vessels, and cause their softening after the manner of emboli.

Besides these changes in the arterial walls, it is supposed that a local vaso-motor relaxation, or an enfeeblement of the wall following fright, severe emotions, or due to hysterical or hypnotic influence, may be followed by purpura and hemorrhage. Such cases are frequently reported in literature. Weir Mitchell, in discussing these cases, says:[4] "We are justified in asking whether neural conditions may not be capable of directly enfeebling the vessel-walls so as to cause them to give way under arterial pressure, or to permit of such relaxation as shall enable the globules to penetrate these parts in the manner of Waller and Cohnheim?" Just how far this weakening from neural influence can be applied to other forms of hemorrhages, the nerves being affected by organized or unorganized blood-poisoning, we cannot say.

We now come lastly, to two forms of purpura to which no apparent cause can be attributed. We call these *purpura simplex* and *purpura rheumatica*, or peliosis rheumatica. In both we have simple purpura, but in the latter form associated with pain and swelling of the joints. They have been formerly considered as distinct diseases, but of late effort has been made to associate them, it being urged that peliosis rheumatica is that form of purpura which occurs in rheumatic subjects, the joint symptoms being due to the associated rheumatism, or that it is a severer form of purpura in which hemorrhages occur in or around the joints. That the joints may be so involved in purpuric diseases admits of scarcely any doubt. The joint symptoms are seen in simple Werlhof's disease, in scurvy, in Fagge's cases with multiple sarcomata, and in many other varieties of hemorrhagic dyscrasiæ. If this be so, why consider them as separate diseases? Is it not justifiable to call purpura rheumatica an intenser form of purpura with joint lesions of a hemorrhagic nature?

If Werlhof's disease be due to an acute infection, may not some of these cases at least both of simple purpura and peliosis, be cases of a lighter form of the same infection? To support this view may be cited cases such as the following of Hervé's, which seem to occupy a middle ground between the two conditions. Hervé (quoted in "Keating's Encycl.," ii., p. 83) reports an infant aged three months, who for twenty-four hours had suffered from restlessness, malaise, pallor, rapid pulse and respiration, with mucous râles in the chest. No gastro-intestinal symptoms. At the end of twenty-four hours developed spreading purpura of legs, thighs, and abdomen, with coldness of skin and some œdema, without free hemorrhages from mucous membrane, and died in ten hours.

In summing up, the points to which discussion is invited are:

1. Werlhof's disease is probably infectious in origin, the exact infection not having been absolutely proven, though probably it is the bacillus described by Letzerich.

2. We meet acute cases of this infection, in which death results from acute anæmia, from internal hemorrhages or from sepsis.

3. Purpura simplex and purpura rheumatica are probably types of different grades of the same infection, and this infection may be the same as that of Werlhof's disease.

4. Scurvy, if proven an infectious disease, may be really Werlhof's disease modified by the surroundings and poor condition of the patient, and also by the possibility of the infection being more chronic.

5. Drug purpuras, anæmic and cachectic purpuras, purpuras in exanthemata and other infectious diseases, purpuras in newly born, in endocarditis and multiple sarcomata, as well as those of neural origin, may present all grades of severity; that we can in each determine a cause, though we do not know exactly how the symptoms are produced by this cause, whether by blood-changes or vessel-changes, or from nervous causes; but these purpuras are symptomatic and not essential, and should not be classed with purpura hæmorrhagica, or Werlhof's disease, until we are more enlightened upon this subject.

[1] Path. u. Therap. der Krankheiten des Respirationsapparates, Bd. i., p. 217.
[2] MEDICAL RECORD, August 23, 1890.
[3] Guy's Hospital Reports, vol. xxv.
[4] American Journal of the Medical Sciences, July, 1869.

ACQUIRED SYPHILIS IN A CHILD FOUR YEARS OF AGE, PROBABLY AS A RESULT OF RAPE.

By ALEXANDER LYLE, M.D.,
NEW YORK.

Before introducing the following case, which in many respects is one of rare interest, and happily encountered very infrequently by the general practitioner or even the specialist, it may prove interesting to note the fact that of acquired syphilitic infection there are two generally recognized modes of origin, the one called direct infection, in which a syphilitic person comes in direct contact with a non-syphilitic, transmitting the disease usually by the genitals, although many cases have been seen in which the infecting material has been deposited upon the lips, tonsils, fingers, and other places; and, second, mediate infection, in which the disease is transmitted through some medium from the diseased to the healthy person. The case I now present may be enrolled under the first, viz., direct infection, for although the person, or, as we might more properly call him, "the demon in human form," who committed such a fiendish act has not yet been brought to justice, there is every reason to believe that this child was infected

at the vulva by a syphilitic penis. There is a most erroneous belief prevalent, especially among the lower class of Germans and Irish, that if the possessor of a chancre copulates with a virgin, or in any other manner is able to infect a perfectly healthy person, he himself will escape further trouble from the disease, and this little patient has probably been the victim of such an outrage. The history of the case is as follows: Alice S——, aged four years, of German extraction, stoutly built, and large for a child of her age. The father and mother positively deny having ever had any venereal trouble; the other children are perfectly healthy, and give no evidence of syphilitic or scrofulous taint. The patient has had scarlet fever and measles. Last summer the mother noticed an eruption on the child's scalp which was found to be eczema capitis; this yielded gradually to treatment and improved slowly, there is, however, a small portion of it still remaining on the right side of the head.

The present trouble dates back to the middle of November, 1890, when the child complained of great pain during urination; to this her mother paid no attention until a few days later, when she noticed while bathing the child that the labia were greatly swollen and inflamed. Not considering this serious enough to consult a physician, she allowed it to run on until an eruption appeared on the neck and about the genitals, which was about one week later; she then consulted a druggist, who unsuccessfully treated the case with a variety of preparations. She came under my observation in my class of diseases of the skin at the North-Eastern Dispensary, on January 6, 1891. Upon examination were found deep and suspicious-looking fissures in the corners of the mouth, two large mucous patches on the lower lip, and an aphthous-like condition of the tongue and inner aspects of the cheeks; also an eruption on the neck, which was at once diagnosed Tinea circinata, but upon closer examination proved to be a much more interesting lesion, as will be seen; immediately beneath the chin and on either side of the neck were found several large, bright-red patches, twelve in number, of circular and oval firmly seated papules covered with exfoliated epidermis, and varying in size from a split pea to a dime; two patches of smaller size situated over the left sterno-mastoid muscle were closely analogous to the eruption of psoriasis. On the back of the neck one patch of the small papular syphiloderm variety was found, another of the same variety over the left jugular vein, and still another over the right sterno-mastoid; these varied in size from a pin-head to a millet seed, their summit being covered with fine scales and being of a dull red or brownish color. On the body could be seen traces of a fading roseola. The genitals were next examined, and there the seat of the trouble was found. Had the child been fourteen years of age or over, my first question would have been "when did you last have sexual intercourse," but considering her age no information could be gathered regarding the attempted copulation.

The labia were inflamed, œdematous, and surrounded with numerous condylomata of all sizes. The vulva was in a filthy condition, due to the constant excretion from the condylomata, which was of a most sickening odor. No laceration was perceptible, a rather wide-spread excoriation at the introitus vaginæ being the only indication of abusive treatment. The hymen was intact and of the annular variety; the perineum was perfect. About the anus were found several condylomata, some being warty in appearance and resembling the syphilis cutanea vegetans; others were of the broad or flat variety, and situated mostly about the nates and vulva; these varied greatly in size, from one-eighth of an inch to one inch in diameter, some having coalesced, forming large patches, and being covered with a grayish, sticky, mucoid secretion.

The condition of the glandular system was most interesting, the epitrochlears were enlarged, that on the right side being scarcely perceptible, while the left was the size of a large pea. The anti-auricular ganglion was much enlarged, while those of the neck generally were less hyperplastic; later on, however, they all become markedly enlarged and typically syphilitic. The axillary glands were enlarged, those on the left side being more pronounced than on the opposite side. The inguinal glands differed to a much greater extent than any of the others, the left being larger than an ordinary sized almond, while the right was not much larger than a pea. There was slight tenderness on pressure of the left inguinal, but even firm pressure on the others caused no pain. The treatment consisted in the administration of Dr. R. W. Taylor's mixed prescription, viz.:

℞. Hydrargyri biniodidi ..... gr. ¼.
Potass. iodidi..... ..... ʒ ij.
Syr. sarsaparilla co..... ʒ ss.
Aquæ ..... ad. ʒ ij.
M. Sig. One drachm every three hours.

Equal parts of bismuth and starch were at first used, dusted on the genitals after they had been thoroughly cleansed. Later on aristol was substituted with very gratifying results. The parts were bathed frequently with a two per cent. carbolic solution, and a pad of absorbent cotton inserted between the labia.

This case is made most interesting from the very youthful age of the child; the probable manner in which the disease was transmitted; the very marked glandular enlargement of the left side as contrasted with that of the opposite side; its rapid improvement under anti-syphilitic treatment; and the combination of the three forms of syphiloderm, viz., 1, the large papular or lenticular; 2, the papulo-squamous, and 3, the small or miliary papular syphiloderm. I have not pronounced this a case of "rape" without careful study and inquiry into all the other modes of infection. Examination has shown all the other members of the family to be free from the disease, consequently towels, wash-rags, knives, forks, pillows, clothing, trousers, bandages, etc., are excluded as being a probable source of infection. One source, however, we are unable to exclude, viz., the water-closet; in this dark, secluded nook many have been made the recipients of gonorrhœa, chancroids, and syphilis, but these are usually from direct infection, and but very few from mediate infection. In this case the excoriations, œdematous and inflamed condition of the vulva, the painful micturition, and numerous condylomata, all point to direct infection in the genitals.

112 East Eighty-first Street.

MEDICAL JURISPRUDENCE.

By HENRY A. RILEY, Esq.,

new york.

There are two matters relating to the prisons which will come before the Legislature which has just begun its session. These are of general importance, though one more particularly concerns this city.

There is little doubt that an effort will be made by some members of the Legislature to repeal the law of 1889, which required work to be done in the State prisons, though under restrictions and limitations which reduced the competition with free labor almost to a minimum. The law of 1888, which it superseded, was an abomination, as it kept the prisoners in idleness, caused great demoralization and ill health among them, and ran up a large bill for the taxpayers to meet.

The labor unions seem in some instances to think that there is still an injurious competition with free labor, but this the most competent observers believe to be a fallacy, and say that, even if it does cause a competition, it is as slight as the difficult nature of the problem will allow. It must be remembered that the subject of prison labor is a very complex one, and cannot be dealt with in any off-hand manner. It deserves, as much as any public matter of general interest, to be discussed without partisan rancor, and to be decided by those fully acquainted with all the necessities of the case. It would

seem wise policy to leave the law unchanged for another year at least, and see how a longer experience tests its merits. This is the view of the Superintendent of Prisons, who says in his report for the year: "The improved condition of the State prisons, as set forth in this statement of the operations and results of the last year, seems to the superintendent to afford the strongest ground for the continuance of the system, without change in any material respect, until a larger experience shall prove that changes will be beneficial, and shall also point out with some distinctness what may be required, if anything."

The other matter relates to this city specially, and is the appointment of matrons at the various police stations to look after the wants of women prisoners, to search them when necessary, and keep them so far as possible apart from the male prisoners. It is amazing that any measure so clearly in aid of decency and humanity should be opposed by a sufficient number of Police Commissioners to secure its defeat. The reason given is that the public do not demand such a change in the management of women prisoners, and also, that it would cause an expense of some $30,000 besides the salaries of the matrons. In regard to the public demand, we believe that the commissioners cannot really believe their statement, for it is probably true that there is not a single proposed change in police methods which has received the strong commendations of all good citizens as this one has. The daily press agree in demanding it, and many humane societies have passed resolutions urging the appointment of the matrons.

A year ago a bill passed the Legislature, requiring the commissioners to appoint matrons, but this was vetoed by Governor Hill on the ground, we understand, that the commissioners would probably act promptly if a bill merely permitting their appointment was passed. Such a measure was passed, and yet the commissioners stand out against every feeling of decency and kindliness. It seems to be the duty of the Legislature to make the appointment compulsory.

In a recent English case an assistant of a chemist, who sold poisons without being registered, was held liable to a fine of £5, although the chemist himself was properly registered and qualified. The court in deciding the case said of the management of drug stores, that it was not intended to force the employment of registered assistants in the ordinary duties of the shop, "but it is otherwise where the assistant is to be intrusted with the sale of such poisons. To leave the selection of such an assistant, without regard to any qualification, to the discretion of his employer, would in our opinion be to defeat the object of the Legislature. One employer in a large way of business might feel that his assistant ought to possess a knowledge of poisons and poisonous drugs equal to his own. Another in a small way of business might be contented to leave the management of his business to an assistant who, though he had knowledge of the general character of poisons, had but imperfect knowledge of their destructive properties and of the various degrees of noxious strength contained in them. A third, who was but seldom asked for poisonous drugs, might think any person of ordinary intelligence sufficient. While a fourth might, without thought of danger, be content to risk a mishap and leave a mere servant in his household, who knew no more than that poison is poison, to represent him.

"In our opinion, the intention of the Legislature was expressly to provide against such a state of things by insisting upon one uniform qualification for every person who should sell, whether on his own account or for any other person, such dangerous commodities, namely registration under the act, based on a certificate of competent skill and knowledge granted after examination by examiners carefully selected and appointed for that purpose. With such a certificate the holder of it may fairly be deemed to possess knowledge, not only of the general effect and operation of the various poisons with which he may be called upon to deal, but what is quite as important, if not more so, for the public safety, knowledge as to the quantities in which each poison may be harmfully or beneficially taken, and the quantities in which, if taken, death or serious mischief would be inevitable."

Some recent decisions may be briefly summarized as follows:

In Georgia the sorrow of a woman over her miscarriage is not a ground for damages.

In Tennessee a man cannot be punished for taking part in a duel on Arkansas soil.

In Kansas, cemeteries do not last forever, but can be abandoned and the land used for other purposes.

In California the Legislature can properly direct that the scholars in the public schools shall be vaccinated.

A Maryland court has declared that no plumber shall practise his profession in Baltimore without a certificate from the Commissioners of Practical Plumbing.

In Massachusetts it is not proper for a Catholic priest to forbid the members of his church to employ a certain physician.

In Indiana mental anguish is a good ground for a verdict for damages for neglect in delivering a telegram.

In Kentucky oral evidence of a dying declaration can be given when a written statement made by the injured man has been destroyed by the accused.

In Massachusetts "Dr. Spencer's Queen of Pain," and "Spinal Paste or Saltrheum Cure," are not valid trade marks; and in Texas "Microbe Killer" is likewise not the exclusive possession of a single manufacturer.

In North Carolina a woman who has had sexual intercourse with a man, but has long since repented, is an "innocent" woman in the eye of the law.

In Illinois a very young child straying into a dangerous place and getting injured can recover damages, the negligence of the parents not being imputed to it.

One of the daily papers says: "An agent of the New Jersey State Board of Health has completed a search for poisonous cosmetics and powders in New Jersey. Thorough examinations were made in Plainfield, New Brunswick, Elizabeth, and Trenton for a brand of face powder of a poisonous nature, which the Board had good reason to believe would be offered for sale in these four cities.

"At only two pharmacies were the prohibited articles found. It is understood that prosecutions will be instituted as soon as the evidence against them can be formulated. Incidental to the examination for the poisonous powders, the fact was discovered that the sale of opium, morphine, and chloral was largely increased during the past year. Several druggists have been notified to stop the illegal sale of these drugs at once, or stand trial."

Undertakers' bills are dangerous things to talk about, it would seem, from a recent trial in this State.

It appears that the undertaker charged $500 for his services during a single day in embalming a body, but on the trial gave no evidence as to the value of his services. The defendant introduced, however, the testimony of six expert witnesses that the services were not worth over $100. The bill was repudiated by the family of the deceased, but was paid by another person.

It was charged against the latter that "no consultation was had with deceased's family to determine as to the justice of the demand, although such consultation could easily have been had, and the injustice of the claim have been made manifest." This charge was held by the court to be libellous.

Professor Lewis A. Sayre has received from London, England, a "Bowman Presentation Portrait," a beautiful mezzotint by I. Cother Webb, Esq., from an oil painting by W. W. Ouless, R.A., which was exhibited at the Royal Academy, 1889. The likeness is a striking one, which Dr. Sayre values highly.

ACUTE ANTERIOR GONORRHŒA: THE INDICATIONS FOR, AND RATIONAL METHODS OF, TREATMENT.[1]

By HENRY S. STARK, A.M., M.D.,

NEW YORK.

WERE it necessary to offer an apology for the selection of this topic, I should present the statement that the treatment of this disease has not received the attention to which its wide-spread importance entitles it; on the contrary, physicians have too often viewed the matter merely in the light of a punishment inflicted by providence on the patient for some infraction of the laws governing our social system. That I am not overdrawing the picture, witness the following quotation, the opening sentences on the treatment of gonorrhœa, by an authority celebrated on two continents. "I do not feel called upon," says he, "to make further suggestions for the benefit of dissolute men who merely desire to continue their irregularities unpunished." This is a good type of a class who consider the treatment a mere triviality. Is it then surprising that gonorrhœa and its sequelæ still remain among the commonest of venereal diseases, or that the amount of contagion afloat should be as great to day as ever before? We of to-day see the dreams of Noeggerath realized in all their appalling significance, we now all but believe that uncured gonorrhœas are the most important factors in the causation of gynecological diseases, and that the physician who treats a urethritis assumes a responsibility that is not to be measured by its comparatively insignificant effects. I have purposely left out of the discussion the consideration of certain well-advertised methods of treatment, because I believe that they who advocate them are actuated by motives other than scientific or humanitarian.

An historical retrospect of gonorrhœa would bring us back to the ancient Jews, Greeks, and Romans; for we gather from our text-books that this disease was known to Moses and Herodotus, the former having had laws enacted for its prevention and spread. Throughout all ages, down to contemporaneous times, the treatment of the disease has been the subject of endless controversy, experiments, and research, and these have produced an amount of literature that is startling in its immensity. It would be amusing, if the scope of this paper permitted, to enumerate the many and ofttimes contradictory methods of treatment that have been the fashion at various periods in the history of gonorrhœa; so that there is hardly a disease in our nosology that has passed through so many phases in treatment; in the matter of drugs it would be easier to enumerate those not used, than to mention the myriads that have been employed. Different methods of treatment have followed each other in such rapid succession that each newly fledged specialist felt it incumbent upon himself to elaborate a theory of his own, or to adhere to one recommended by his teacher. There is thus no universal, systematic method of treatment in vogue, while the duration of an attack is to-day what it was centuries ago. Now, when the duration of a disease whose history is almost as ancient as the human race itself, remains the same to-day as it was when it first became recognized, it is not unfair to assume, without appearing pessimistic, that little progress has been made in its treatment. That the history of gonorrhœa is entirely in consonance with this sentiment is made apparent when we read in our very latest works that, despite the most energetic treatment, the duration of an attack still averages from five to six weeks.

The treatment of this disease, then, is one of the therapeutical problems of the day, yet we may find consolation in the fact that, at no period in modern times did we seem so likely to discover the key to its solution as at present; for if rational inference serves as a means of arriving at therapeutical principles, we may hope that ere long the germ theory of disease will furnish us with an infallible and speedy method, just as it has in other departments of medicine.

The evolution of this biological theory must have convinced older practitioners that they were entirely mis taught in regard to the rational treatment of gonorrhœa; while the discoveries that emanated from its doctrines have accomplished not a little toward establishing genito-urinary pathology on a renovated basis.

The nature of this disease and its virus having been only recently established, any method of treatment is inadequate and unscientific which fails to recognize the fact that, in modern therapeutics the principle of antiseptic medication dominates; for, writing with the conviction that we may expect to cure diseases in proportion as we are able to trace them to their origin, it is not too much to claim that the sooner the treatment of gonorrhœa conforms to the teachings of the Listerian principles, the better for that large and increasing class of persons who are to become the victims of this disease and its sequelæ.

The widely different circumstances under which the disease occurs, both from the physician's and the patient's standpoint, must, of course, be taken into consideration in the treatment. The necessity for concealment in many cases, or inadequate facilities at home, lack of time to carry out topical treatment, or an utter disregard of all directions relating to hygienic or dietetic matters—these are drawbacks which the physician often encounters, and which necessitate a plan of treatment opposed to his best judgment but convenient for the patient, and therefore preferable to him.

The indications for treatment turn upon the nature of gonorrhœal virus and its habitat, the locality of the lesion, the anatomical peculiarities of the urethra, the extent and stage of the inflammatory process, and the variety of diseases to which gonorrhœa belongs. In regard to the nature of the disease, whether we believe in its specific character or not, we must never lose sight of the fact that we are dealing with a suppurating mucous membrane, and the treatment of suppurating surfaces is long established on universally recognized principles. Further, whether we believe or not in an inseparable and constant connection between gonococci and gonorrhœa, the indication, as far as the suppuration is concerned, is again for germicidal medication. Therefore it should be our first and constant endeavor to sterilize or neutralize the virus, then to get rid of the secretions, and to render the urethra an unfavorable soil for the further production of infectious matter.

Although an inseparable etiological relation between the microbe of Neisser and gonorrhœa has not yet been absolutely demonstrated to the satisfaction of bacteriologists in the same sense that certain bacteria of other diseases have, still for clinical and therapeutical purposes it may be assumed to be fairly established. Thus, while there is a clear distinction theoretically between virulent and non-virulent urethritis, or rather specific and non-specific urethritis, there is practically no difference for therapeutical purposes, since the products are nearly always the same, and the same topical treatment is applicable to both; only that in the benign variety the duration of an attack is shorter and the complications hardly ever present.

As to the locality of the lesion, we should bear in mind that the urethral mucous membrane is accessible for manipulation and inspection per endoscope, an instrument too little employed by the general practitioner, but without which accurate localization of urethral lesions is well-nigh impossible. It is also important in this connection to remember that different parts of the urethra may become inflamed at different times, so that the local phenomena of the affection will vary with the seat of the attack, and thus furnish a guide to our therapeusis.

As to the anatomical peculiarities, it is only too well known that the calibre and diameter of the urethra are not constant, but varying, quantities. Further, that the

[1] Read at the meeting of the Metropolitan Medical Society, January 7, 1891.

urethral mucous membrane presents the gaping orifices of numerous mucous glands and follicles, the so-called glands of Littré, which always afford a ready ingress and shelter for gonorrhœal virus. Within these the gonococci and pus-generating cocci may remain stored up, and even hibernate, for a succession of seasons, during which there may be no palpable evidence of disease, unless some indiscretion or excess rekindle the accumulation harbored in the crypts and lacunæ. This is not mere theorization nor exaggeration, for cases of chronic folliculitis, some even leading to ulceration and urinal fistulæ occur commonly enough. Further evidence that the virus may remain latent in these expanded follicular pouches, is the fact that a succession of gonorrhœal attacks will originate at times in an individual who has had intercourse with women who themselves may never have had the disease, a proof that the individual must have supplied the infection from his own urethra. This glandular structure of the urethra plainly demonstrates how necessary direct local treatment becomes, in order to effectually dislodge the virus from its follicular residence; for experience has shown that the virus may at any time find its way out on the surface of the urethra, and reinfect it with the same virulence that characterized a previous attack. It would appear that the constant flushing of the urethra with urine during micturition, or urine charged with anti-blenorrhagics, ought to wash away all microbes, but experience and experiments have demonstrated the contrary. Therefore, I believe that the physician who treats a maiden attack of virulent urethritis only by internal remedies, exposes himself to the charge of unscientific treatment as much as if he were to treat diphtheria solely by the exhibition of internal medicaments. For in this disease it has also been demonstrated that the virus may lurk in some rugæ of the buccal mucous membrane, in the cavity of a tooth, or in some tonsillar crypt, long after the disappearance of the diphtheritic exudation, and that it may creep out at any time, and reassert its virulence.

In regard to the extent of the inflammatory process it is of utmost importance, in order to adopt an intelligent mode of treatment, to know accurately how far along the urethra the gonorrhœa extends. Whether the inflammation is limited to the part of the urethra anterior to the compressor urethræ muscle, or whether it likewise involves the deep urethra, are points about which we must satisfy ourselves before deciding on treatment. For if the urethra behind the "cut off" muscle is affected, it were sheer folly to order injections with an ordinary syringe, since the action of the muscle would shut off all fluids from the diseased surface.

An accurate diagnosis, then, is indispensable to successful results. It would not be within the compass of this article to draw a differential diagnosis between anterior and posterior urethritis, such a description can be found in any systematic treatise on the subject; nevertheless it is important to call attention to this feature, since the treatment in the two varieties is essentially different.

In regard to the variety of diseases to which gonorrhœa belongs, leaving out of consideration the question of its specificity, it is acknowledged to belong to the purely local and infective category. As a local disease limited in its sphere of action, it will require local treatment. For, if it be true that constitutional diseases require constitutional treatment, the corollary follows that local disease requires local treatment. As an infectious disease depending on a specific virus, it would call for some agent destructive to the *materies morbi*.

It is a classical custom among writers to divide the regular course of the disease into three stages, namely, the initial or prodromal, the suppurative or florid, and the declining stage, and to describe the treatment under three corresponding divisions. It must be apparent that such an arbitrary division, which does not depend upon any sharply defined symptom or morbid phenomenon as a basis of demarcation, can never be relied upon as a safe criterion for the selection of individual therapeutical measures. In order to divide the progress of the disease by hard and fast lines into stages, it is better to select some constant and leading feature to serve as a basis of division, and the suppuration being the principle characteristic of the disease, would best, I believe, subserve that purpose. We would then have the course of the disease divided into the ante-blenorrhagic, blenorrhagic, and the post-blenorrhagic stages. This nomenclature I shall employ in this paper. A few words, however, in regard to the prevention and abortion of the disease, before directing attention to the methods of treatment. It is recognized that no person is favored with a complete immunity if he exposes himself to the poison of the disease. That different individuals are differently susceptible to the virus is also known. Thus, it is possible for one or more of a number of males who have had intercourse with the same gonorrhœal subject to escape gonorrhœal infection. This circumstance is explained on the supposition that there are certain conditions of the urethra which favor infection, and others which insure considerably against it. An alkali soil enhances the chances, while an acid soil minimizes them, the bacteria and other organisms thriving better in the former. There are certain special glands scattered throughout the urethral mucous membrane, which in health secrete an alkali fluid to lubricate the canal; this secretion is neutralized or acidified by contact with acid urine; should, however, this secretion at the time of coitus have remained alkali, we have the most favorable pabulum and least resisting medium, in which gonococci develop and even proliferate. One attack of this disease predisposes the individual to subsequent ones; in which respect gonorrhœa does not conform to the prerequisites of the specific diseases, which, having run their course, cannot be made to return in the same subject.

Can the disease be aborted? In other words, are there any methods which may be employed with the view of arresting the progress of the disease directly at the outset? Naturally, we look to those agents which have a strongly germicidal action on the microbes of blenorrhœa and suppuration, the so-called strong antiseptics—bichloride of mercury, carbolic acid, nitrate of silver, peroxide of hydrogen, etc. Now, we know that these cannot be employed to cut short the disease, since they are highly irritant and corrosive, only destroying the germs at the expense of the living tissue which is the seat of them.

For a time injections of a strong aqueous solution of nitrate of silver were the fashion, but thanks to an enlightened pathology of urethral disease, this method has justly fallen into disrepute. To cut short an attack of gonorrhœa at the expense of causing strictures, is hardly an innovation favored by the laity. The feebly and moderately antiseptic drugs, and weak solutions of the strong antiseptics, have all in turn had their day, only to demonstrate their utter uselessness to abort the disease; or else it was demonstrated that urinary concretions follow their employment, which act as mechanical irritants or foreign bodies. To this latter category of antiseptics or abortives belong the zinc, bismuth, and cadmium salts, resorcin, thallin, iodoform, etc. It may, then, be asserted that there is to-day no rational abortive treatment. The ideal of such a method would be furnished by some agent which destroys micro organisms without having a deleterious effect on the living elements which are their seat; or, if we reason by analogy, our hopes and efforts would be directed to those methods of prevention applicable to certain other of the infectious diseases; namely, experimental inoculations with highly attenuated viruses. It is almost utopian to venture such a prediction, yet it is certainly within the range of belief, if this disease depend on a specific virus, as is claimed by those who have made a study of gonorrhœa and its virus. An ordinary observation of every-day events will furnish the most casual doubter with grounds for the belief that, in subcutaneous vaccination preventive medicine finds its most formidable measure of defence against the inroads of the infectious diseases. Fol-

lowing in the wake of the Koch treatment of tuberculosis, and the application of the remedy for the cure of lupus, leprosy, granular lids, cancer, etc., the only wonder is that the remedy has not been employed by genito-urinary surgeons.

Coming now to the methods of treatment, our object in the ante-blenorrhagic stage is not to arrest the progress of the disease, for we have seen that we cannot strangle it, but simply to limit its intensity and to relieve suffering; in other words, the treatment is palliative, and is essentially the same as in the early period of most acute local inflammations, with the exception that the temperature and other symptoms of a febrile movement are never so marked as to call for antipyretic measures. The general principles which govern the treatment are those of a prophylactic, hygienic, and dietetic nature. In regard to these all authorities are in perfect accord, and they are familiar to all. Of drugs, there are none known to exert a specific curative influence. The only drug really indicated, unless the constitutional disturbances are so prominent as to call for interference, is an alkali exhibited directly after meals, to neutralize the urine. This latter method of administering the drug is imperative, since, if the alkali be given on an empty stomach, in the absence of the gastric juice, the likelihood is that it will be quickly diffused into the blood in its alkaline state, where, meeting with the neutral phosphate of soda, it will, by a crossed chemical reaction, be converted into an acid phosphate of sodium, which thus increases the acidity of the urine, the very object we are aiming to avoid. This feature, in the period of administration of an alkaline salt for purposes of rendering urine alkaline, must be kept in mind.

Local interference in the ante-blenorrhagic stage is contra-indicated even if the patient be seen early enough. The employment of the so-called antiblenorrhagics, the balsams and ethereal oils, is also to be avoided, as there is as yet no blenorrhœa. This stage ought not to be treated energetically nor heroically. Fortunately for some patients, they do not present themselves for treatment during this stage, either because the symptoms are too slight to attract their attention, or if they understand them, they feed on the hope that the disease will terminate spontaneously and without treatment. I say fortunately, for there are too many physicians whose routine treatment of this disease, in any or all of its stages, is without any deviation, the ordering of copaiba internally and astringent injections locally. Is it then to be wondered at that the treatment of gonorrhœa has fallen into other hands than those of reputable physicians; *e.g.*, medical charlatans, druggists, drug-clerks, irregular practitioners, commercial travellers in whom the disease is endemic, and some "good friend."

It is in the second, or blenorrhagic, stage that active measures are indicated. Now judgment and skill are called into requisition. This stage has always been the bone of contention, the question of injections or no injections being the much-mooted issue. Until within a few years ago, authorities were about equally divided in the matter; to-day, through the light of antiseptic surgery, the pendulum is swinging on the side of those who advocate local treatment directly the suppuration begins. It used to be taught that injections were often the cause of later strictures and of certain complications, but time and experience have, I believe, demonstrated the fallacy of this supposition, and have proven the converse proposition, that the complications and sequelæ are more liable to follow when local treatment is omitted. That the use of injections has been abused, by emanating from men who did not understand the nature of the disease, and who could not gauge its intensity, goes without saying, nor will I deny that harm has often resulted from their indiscriminate employment; but I think it could be proven that, in those cases of gonorrhœa where complications followed the use of injections, the trouble lay not in the method of procedure *per se*, but rather that the injection was ordered prematurely, or too strong solutions were employed, or else that the patient was not properly taught in the *technique*. What I claim is that, if weak injections be ordered and the patient be instructed exactly how and how often to inject, no harm can follow their employment in the blenorrhagic stage of uncomplicated acute anterior urethritis. The strength of the solution should be inversely in proportion to the amount of discharge, that is to say, the more profuse the suppuration the weaker the solution; every detail of the slight operation ought to be reviewed, and we ought to be certain that no complication be present when ordering the injection. The advantages of direct topical treatment over all other methods is a strong argument in its favor. By this method alone can cleanliness be observed, the cardinal virtue in the treatment of suppurating surfaces, and by this method alone do we effectually drain the urethra of its secretions.

There is a great deal of truth in the old surgical motto, "*ubi pus, ibi evacua*." Wherever there is pus, get rid of it. What more effective manner than by the systematic irrigation of the urethra, could be employed in the treatment of gonorrhœa, I fail to understand; and at the same time, remembering how easily the virus may insinuate itself in some recess or reduplication of the urethral mucous membrane, I fail to understand how anyone can hesitate to avail himself of this therapeutical resource.

Nothing in what has preceded should be so construed as to lead you to believe that the method by injections is the only method to be followed in the blenorrhagic stage. On the contrary, I believe in the superior efficacy of combining several therapeutical measures, and thus charging the disease from several channels. The administration of the so-called antiblenorrhagics—cubebs, copaiba, sandal-wood, etc.—is to be recommended in conjunction with topical treatment. The value of these drugs in blenorrhagic processes has long ago been proven. There is abundant experimental and clinical evidence in favor of their usage. It has been shown satisfactorily that they exert a selective influence on the mucous membrane of the genito-urinary tract, where they act, when suspended in the urine, by sterilizing the secretions and thus depriving them of their noxious influence. Oppenheimer, after a large number of experiments to test the antiseptic power of copaiba, found that if the drug was applied directly to the micro-organisms, its effect was slight, but that urine charged with copaiba was a poison to bacteria. Ricord treated a number of gonorrhœa patients, who were also suffering from urethral fistulæ, with copaiba internally. The result was, in these cases, that the urethra behind the fistulæ, which was washed by the urine, recovered, while the part of the urethra in front of the fistulæ remained diseased, and continued to suppurate until injections of the patient's urine were made into it. The oft-times bad effects of the balsams and ethereal oils, however wisely administered, have limited their employment to a considerable extent, so that to-day many physicians have discarded them entirely from their pharmacology, with equally good results. Many experienced and knowing patients often request their medical advisers not to prescribe these drugs, stating that between the two evils of having gonorrhœa and having to take copaiba, they would much prefer the former. I always concur in their appeal. I often wonder how those physicians who are constantly condemning the use of injections for fear of injuring the urethra and thus opening new portals for infection, reconcile their apparent inconsistency in not hesitating to apply harsh topical treatment to catarrhal affections of other mucous membranes, some more delicate than the urethra, as the eye, ear, mouth, and nose. Some of these physicians do not stop to invade, and with perfect immunity, even serous cavities, as the peritoneal and pleural, during an acute grade of inflammation, with all manners and sorts of instruments. Somehow, their dread of injuring these membranes is a mere bagatelle, but the slight touch of the smooth surface of a syringe against the urethra sets their imagination aglow with

pictures of all the pathological lesions that the human urethra is heir to.

Presuming the disease to have passed into the post-blenorrhagic stage, the painful micturition having ceased, and the suppuration having almost entirely stopped, or been replaced by a thin watery discharge, the same treatment as in the blenorrhagic stage is to be continued, except that stronger injections may be ordered. Should there be left over, after the acute inflammatory process has abated, a slight watery discharge, as evidenced by finding the lips of the urethra glued together on waking in the morning, it should be interpreted as a slight irritation of the urethral membrane, or as a lack of tone in its capillaries or in the entire system. An attempt should then be made to alter the action of the blood-vessels of the urethra, so that they may gradually be brought to secrete again the healthy mucous fluid with which the canal is naturally lubricated. For this purpose the introduction of a large-sized sound once a week, preceding the operation by a copious irrigation of the anterior urethra with a very weak and warm solution of permanganate of potash, answers perfectly well. The passage of the sound possesses the additional advantage of dilating any inflammatory stenosis that may be present and might prove the starting-point of an organic stricture.

It is in this stage of the disease that the important question will come up, when may we consider the patient cured, and what is the criterion of cure? The patient will consider himself cured when the discharge and the *ardor urinæ* have ceased, but the physician should require more assuring evidence than the absence of these subjective symptoms. Often the physician coincides with the patient's view, without satisfying himself to the contrary, with the inevitable result that the attack recurs after an apparent cure. I venture to assert that many a case of chronic urethritis, granular urethritis, posterior urethritis, organic stricture, etc., can be traced to the fact that patients were prematurely discharged as cured, or to the fact that when such patients suggested a cessation of treatment and a return to their former habits of life, they were not sufficiently impressed by their physician of their folly, or else the physician submitted to the appeal of his patient without a comment.

To-day, such *prima facie* evidence as cessation of the blenorrhœa and *ardor urinæ* is no longer decisive. It would appear that the ideal test would be the continual absence of gonococci and pus-cells, but this method is impracticable for general office-work. Therefore, the clinical test of examining the urine of clap patients for the so-called clap-threads or flakes and for pus, answers all our purposes. Their continual absence for about ten to fourteen days would indicate a cessation of all treatment, and a gradual return of the patient to his former *régime*.

270 Seventh Street.

THE BACILLI IN THE TALMUD.

By NAPHTALI HERZ IMBER,

NEW YORK.

Last year, while the influenza was causing such havoc on the Continent, I published an article in the *Jewish Standard*, of London, on "The Influenza in the Talmud," in which I showed that the "sneezing visitor" had often knocked at the talmudical gate, and that the sages of the Talmud knew all about his habits and how to meet his invasion; for they had traced his footprints ever since his first appearance in the time of the Patriarch Jacob. Now that the world is stirred by the discovery of the infamous bacillus of Koch, I will lay before the readers of the Medical Record some facts about it which the sages of the Talmud brought to light nearly two thousand years ago. The origin of all known and unknown diseases is, according to the Talmud, to be referred to a cold or chill. "Air" plays an important rôle in the world of misery. The air, says the Talmud, gives birth to numbers of creeping things, just as does the Mother Earth. On the windy wings of the air the trio—plague, cholera, and influenza—are flying from east to west, from north to south, throwing into our world their poisoned arrows of destruction. The invisible legions at their command put it in their power to attack the human being in his own home—his body. In the air, says the Talmud, is living and moving a numberless throng of invisible insects which are constantly threatening our lives, and if it were allowed our eyes to behold these hordes of "mazikim" (this is the talmudical term for bacilli, and means literally "dangerous ones"), no living beings could stand them. In another part the Talmud poetically calls them "sheidim" (invisible demons, robbers, or breast-dwellers, as they like to take up their abode in this region).

These "dangerous ones" are grouped by the Talmud into four classes, as follows: 1. Kinim, an invisible insect which takes up its abode in the abdomen, attacking either man or the lower animals, indifferently. 2. Zolooim, a sort of worm. 3. Murna, a sort of trichina; and 4. Kordakus, a word meaning invisible demon. The bacilli of the first group are not regarded as dangerous, and the Talmud jocularly remarks that a good morning meal will drive them out from the abdomen. More dangerous are the insects of the second class, the Zolooim, which not only invade our bodies, consumption and leprosy being due to their action (under the skin of a leper, says the Talmud, nestles a sort of worm), but they also make their way into stone and wood, and like to dwell in dirty clothes. (House- and clothes-leprosy is well-known to readers of the Bible.) It is curious to note that popular belief among all peoples ascribes bodily pain to the action of a certain worm, the toothache worm being perhaps the most familiar example. In the third class we find the Murna, or trichina, which is said to infest the lungs of men and animals. Finally we have the Kordakus, or Shed (invisible demon)—bacilli which dwell by preference in fluids such as water or wine. Unclean portions of the body of man, an unclean house, or dirty clothes, are especially liable to become infested with the invisible visitors of the second or third class, and the consequence of such an invasion is the appearance of consumption or leprosy. We find therefore that the laws relating to cleanliness are very numerous. The first duty of a Jewish housewife is, according to the Talmud, to keep the house clean. "Keep the air clean" is a talmudical rule. In a place where there is the dead body of a man or animal the surrounding air is declared to be unclean. This unclean area extends for a distance of four cubits on all sides of the corpse, and if a person finds himself within this circle of "unclean air" he becomes himself unclean (even though he may not have touched the dead body), and must wash according to the mode prescribed by law before he can be declared clean again.

In the Mosaic time the nature of leprosy was as a sealed book, and the leper was sentenced by the ignorant priests to be forever an outcast from among men; but in the talmudical time the rabbis (not the priests) cured the leper by performing upon him an operation whereby the bacilli, hidden beneath his skin, were destroyed. The Talmud remarks upon the fact that there are no lepers in Babylon, and says that it is because the Babylonians are continually washing themselves in the Euphrates River, and drink much beer. A propos of this, there was an article in the London *Daily News* last year, concerning a woman who had been relieved of her leprosy, after the physicians had failed to cure her, by drinking large quantities of beer. The Jewish laws in regard to cleanliness were all framed with the design of preventing the invasion of bacilli within the domestic circle. All kitchen utensils and other things which have become unclean by contact with the flesh of certain unclean animals must, in order to destroy the bacilli, be cleansed—iron by fire, glass by water, while earthenware pots should be destroyed. It is forbidden to drink water which has been standing for several hours

in an open glass or other vessel, for it may then become the medium for the dissemination of the fourth group of bacilli, the "fluid dwellers." Before and after eating it is commanded that the hands be cleaned with water. Certain animals and various creeping things, on land and in water, which are liable to be infested with bacilli, it is forbidden men to eat. The meat of an animal which is to appear upon a Jewish table must first undergo an examination. The manner of killing an animal is not determined by law; the animal may be killed with a stone, and anyone may do it, says the Talmud; but the point upon which the law is strict is the "Bedika," or investigation, and this can be done only by men who have been specially trained for that purpose. The "Bedika" is a very hard task, for after the animal is killed the lungs and other parts must be carefully examined to see if they are free from "Murna" or the trichina bacillus. The presence of small black spots in and around the lungs marks the existence of these bacilli. If the lungs are in a healthy condition, the meat is declared "kosher" (right, fit for food), and if they are not, it is "treipha" (spoiled, not to be eaten). The meat obtained from the butcher must, when brought home, undergo a purification by means of salt and water for the space of an hour, in order to destroy any bacilli that may have gained access to it. Animals are the medium through which bacilli are smuggled into the body of man, and for this reason the Talmud forbids one to sell, even to a Gentile, treipha meat instead of kosher, unless it be upon the latter's special request. All our laws are based upon sanitary principles, and they were given, says the Talmud, for the sake of life, and not for death. It is the law which has freed our race from leprosy, and it is the law which prevented the demon bacilli from entering the Jewish home, to destroy the domestic peace by bringing consumption. But since we have begun to neglect the law regarding food, bacilli have broken through the guarding line, and many a Jewish home has been invaded by consumption, although the number of sufferers of our race is as yet very small in comparison with those of the Gentiles.

The Lymph as Described in the Talmud.—The lymph, as prepared by Professor Koch, consists of the substance of the bacilli extracted by glycerine. Did the talmudic lymph consist of the same material? To this question we must answer a probable yes. But before describing the ancient lymph, I desire to say a few words about scientific development among the sages of the Talmud.

When the priests controlled Judaism science could not advance, for it was restrained by the operation of certain laws. For example, medical science is based upon the teachings of anatomy, but the priests were forbidden by law to deal with dead bodies. Ignorant as they were of the composition and formation of the body, medical science was to them a sealed book, and never could they cure a leper or a man stricken with other disease. They could prevent the spread of an epidemic, but to cure they were unable. Upon the return from the exile the rabbis became the leaders of the nation, and under their rule the evolution of science took place. The sages of the Talmud paid attention to anatomy, and long before Æsculapius laid the corner-stone of the medical structure, the scientific building of the Talmud was complete from top to bottom. In the college of Rabbi Ismael the knife of science was applied to the corpse of a woman (who had been put to death by the Romans) for scientific and anatomical purposes, to demonstrate to the pupils the veins and nerves of the human body, and to familiarize them with the workings of nature within the secret chambers of life. Under the rule of the priests the leper was condemned to be the outcast of society, but the medical rabbis cured him by an operation whereby the hiding place of the Zolooim (bacilli of the second class) was exposed, and the invisible enemies destroyed, the leper being thus restored to society. The wonderful operations which they performed for the relief of cancer, consumption, and leprosy show us how advanced they were as regards medical science. Our moderns would be struck with astonishment were they to read the little tractate entitled "Cholet" (tents), a booklet dealing chiefly with anatomy, or "Negoim" (leprosy). It is greatly to be regretted that many of the tractates which deal especially with the various diseases and their treatment have been lost in consequence of our wanderings for two thousand years, and of our persecutions during the exile. Perhaps they are still hidden on the dusty shelves of the Vatican or elsewhere. But still I can gather, from many sentences scattered through this vast book, or books, of the Talmud much information concerning the talmudic lymph.

There is a talmudic medical rule to the effect that, in the source of every disease there is to be found the means of healing. On this principle the Talmud orders that old wine be given to one who has a fever, for the heat produced by the wine will drive out the heat of the fever; and for the same reason it prescribes the oil of a scorpion to heal the sting of this insect. To this day the Orientals employ this mode of treatment with success, and when one of them has a fever they put hot bricks under his arms so that the heat of the bricks may drive out that of the fever. The above-mentioned principle is the first rule in the medical part of the Talmud.

Now, as to the composition of the lymph referred to. The Talmud says that if Kordakus (the bacillus of the fourth group, whose natural abode is a fluid like water or wine) enters the body of a person, the latter shall have an injection of a certain fluid through the nostrils, saying at the same time, "I am tasting the water which is thy blood" (that is the blood of the bacillus Kordakus), "and which will kill thee." It must be remembered that the fluid bacilli of the fourth group are those which cause consumption and cancer. Must not the composition of the talmudic lymph have been the same as that of Dr. Koch?

Let us remember that the idea of experimenting with a lymph is a modern one, and that it is described in modern phrases; yet the voice is but a voice from the grave, the voice of the Talmud buried in the grave of ages two thousand years deep.

Clinical Department.

FRACTURE OF THE NECK OF THE FEMUR IN A CHILD.[1]

By ROYAL WHITMAN, M.D., M.R.C.S.,

ASSISTANT SURGEON TO OUT-PATIENTS, HOSPITAL FOR RUPTURED AND CRIPPLED, NEW YORK.

On April 9, 1890, the patient, a boy, aged eight, fell from a fence into an area, a distance of about eighteen feet, striking upon his right side. After the accident he was unable to stand, his head and body were severely bruised, and his right knee swollen and painful. He was put to bed, and three days later a physician was called, who, according to the mother's statement, directed his attention exclusively to the knee, and after four weeks, the swelling having subsided, pronounced him well; but as the pain in the knee still continued, and as the child showed no inclination to walk, another physician was consulted, who said the case was incurable, and refused to treat it. He was then taken to a general hospital, and from there referred to the Hospital for Ruptured and Crippled, where he was brought on May 21st, six weeks after the injury. When he was placed upon the table it was noted that the foot was markedly everted; the knee appeared perfectly normal. On examination of the hip it was found that motion, though somewhat painful, was but slightly limited. Extension was perfect, flexion to ninety degrees. Abduction and adduction, though somewhat resisted, nearly normal, but inward rotation of the

[1] Case presented to the Orthopedic Section, New York Academy of Medicine, December 19, 1890.

everted foot was considerably restricted. The right leg half an inch shorter than its fellow, the shortening being due to an elevation of the trochanter above Nelaton's line, and a corresponding loss in the base of Bryant's triangle; the trochanter was broadened, somewhat sensitive to pressure, and beside its elevation was approximated three-quarters of an inch to the middle line of the body. There was marked atrophy in the gluteal region and thigh. A diagnosis of fracture of the neck of the femur was made, a long traction hip-splint with high shoe applied, and in a few days the boy was walking about, free from pain and discomfort. The apparatus was removed at the end of four months, the appearances and measurements being then, practically, as have been described. Although there is now no pain, and almost no limitation of motion, the boy still walks with quite a marked limp.

Thus, to recapitulate, we have a severe injury, resulting in an immediate inability to use the limb, which now, six months after the accident, shows a shortening of half an inch, an elevation of the trochanter and its approximation to the middle line, while the movements of the joint are free, painless, and practically unimpaired. With this evidence I think we are justified in making a diagnosis of extra-capsular fracture, probably impacted. This injury is excessively rare in childhood, and in the literature of the subject I am able to find but one similar case, that in a youth of sixteen.

Aside from its infrequency there are, I think, one or two points of interest in the case. 1. As to treatment. The brace which was so efficacious in this instance might, it seems to me, be used as an after-treatment for similar injuries, which are so often tedious and intractable in adults. Possibly if the joints were protected by such an appliance the pain, which often lasts for years after the accident, might be avoided, and a better functional result obtained. 2. It shows the importance of an accurate history, without which, in this case, the pain in the knee, the atrophy, the shortening, with the thickened and sensitive trochanter might have been mistaken for hip disease.

APPENDICITIS — DEATH IN FORTY-TWO HOURS.

By JOSEPH N STUDY, M.D.,

CAMBRIDGE CITY, IND.

The following case seems of sufficient importance to be placed upon record. On Tuesday night, January 2, 1889, at nine o'clock, I saw, in consultation with Doctor S——, the Rev. Mr. S——, aged twenty-six, American, and whose previous general health had been excellent. In the fall preceding he had an attack of severe pain in his bowels, which after a few hours yielded to anodyne medicines. On the morning of January 1st the patient, in company with his father, arose early in the morning, and without eating breakfast walked one mile and a half to the railroad station, where they took a train at 6 o'clock for a neighboring town, sixteen miles distant. During the morning he did considerable walking and ate some apples, and at ten o'clock he took the train home, walking to his house from the station. At dinner-time he said he was suffering pain in his bowels, and during the afternoon anodyne medicines were given to him, with apparently but little effect. Later in the afternoon Doctor S—— was called to see him, and morphine in frequently repeated doses was given hypodermically to relieve his suffering. At the time of my visit the man's countenance betrayed great anxiety and suffering. He was lying with his thighs partially flexed, the soles of his feet resting upon the mattress; the abdomen was distended and extremely painful on being touched; his pulse was so rapid that it could not be accurately counted; his temperature was about normal (at no time had there been any increase of temperature), and the respirations were increased and thoracic in character. There had been little or no vomiting, and the bowels had, prior to this attack, been active. The man's condition continued much the same until his death, which occurred at six o'clock on the following morning, forty-two hours from the first complaint of pain. The autopsy revealed a general peritonitis. The abdominal cavity contained a large quantity of pus, the intestines were matted together with fibrous adhesions, the cæcum was comparatively empty and contained some pieces of undigested apple incorporated in a mass of mucus. In the walls of the appendix, near the opening from the cæcum, were two perforations; the walls of the cæcum and appendix were greatly thickened, as was also the surrounding connective tissue. Death from inflammation about the head of the colon may occur with little or entire absence of fever; but this is the exception, not the rule, and it would seem almost incredible that an inflammation so extensive as in this case could occur without fever. Inflammation occurring about the cæcum or appendix usually pursues a course varying from a few days to several days, and death resulting within such a short period from the time of attack I believe to be uncommon. The query might be propounded, Was not the previous attack of pain most likely an inflammation resulting in resolution, and might not the eating of the raw apples upon an empty stomach, and a partially empty intestinal tract, have acted as an exciting cause in producing this inflammation, so rapid in its course and terminating so disastrously?

A CASE OF HEMORRHAGE INTO AND AROUND THE BRONCHIAL GLANDS.

By HENRY A. GRIFFIN, M.D.,

HOUSE PHYSICIAN TO THE NEW YORK HOSPITAL.

Bleedings of various sizes and from various causes into the cellular tissues of the mediastina are not of extreme rarity; but hemorrhage of the peculiar character and location as described in the case reported appears, so far as I am able to discover, extremely uncommon. Not only from a pathological stand point does the case have some interest, but particularly from the clinical side, since the symptoms all pointed strongly to hemorrhage of considerable size, whereas the autopsy showed that not more than three or four ounces had been lost. That the condition is not one of practical importance, since it cannot be diagnosticated or treated, is undoubtedly true; but from its vagueness and the unsatisfactory nature of all explanations concerning it, the case appears to me to offer features of interest.

What was its etiology and pathology? What gave rise to the symptoms of large hemorrhage? What was the immediate cause of death? Because of the unanswered (satisfactorily) condition of these questions I desire to report the case.

P. L——, aged twenty-eight, born in Ireland, single, and a longshoreman, was admitted to the medical division of the New York Hospital on August 11, 1890, and gave the following brief history: Previous health good. Present illness of five days' duration, only symptom complained of being cough, with slight mucous expectoration; moderate malaise and prostration; slight febrile sensations, and a sharp pain at the base of the right chest, behind and at the side. On admission the temperature was 101° F.; respirations, 32; pulse, 108. Physical examination showed a few moist bronchial râles evenly distributed over both lungs; slight diminution of voice and respiratory sounds over the bases of both lungs behind; over the right base, behind, a moderate amount of dulness, of limited extent, and a few fine pleuritic râles. Moderate pharyngitis. Pulse rapid, feeble, and somewhat irregular. Tongue pale and coated. Patient anæmic and considerably prostrated.

Milk diet was ordered, and patient was placed on whiskey and fluid extract of digitalis in moderate quantities.

Following admission he became much more comfortable, his pulse improved, and his cough was less troublesome. He breathed easily. During the early evening he rested comfortably, but did not sleep. At 11 P.M. I was called to the ward by a report of his apparently serious condition.

I found him in a state of extreme restlessness, tossing from side to side. His extremities were cold and his radial pulse very faint. He complained of feeling chilly, and at the same time was very thirsty. He had a dyspnœa so extreme as to amount to "air hunger." The nurse reported that he had vomited once. These symptoms were so suggestive of loss of blood that I seriously entertained the possibility of the patient's having had typhoid fever with a complicating hemorrhage. Energetic stimulation, together with the administration of morphine was at once employed, but the patient sank rapidly and at 11.30 he died. One general convulsion immediately preceded death. The post-mortem temperature was 102° F.

The autopsy, made August 12th, showed the tissues of the anterior mediastinum to be œdematous and infiltrated with clear serum. The left lung was everywhere adherent to the chest-wall by loose connective-tissue adhesions, in the meshes of which was contained clear serum. The right pleural cavity contained 1,700 c.c. of clear serum. There was intense congestion of the trachea at its bifurcation. One bronchial gland of the right side was enlarged and caseous, and surrounded by a coagulum of blood in size equal to that of an English walnut.

The pre-tracheal glands were markedly enlarged, necrotic in places, and the seat of numerous hemorrhages, which also involved the surrounding tissues. All the other organs were practically normal. The whole amount of blood lost was about three ounces.

Progress of Medical Science.

The Proteids Found in the Urine in Albuminuria.—The following is a summary of the views of Dr. Paton on this subject: 1. Senator was right in his conclusion that, in all cases of albuminuria, both of the chief proteids of the blood plasma are present. 2. The proportions of serum albumin and serum globulin may vary within wide limits, the quotient of the amount of serum-globulin being sometimes as low as 0.6, sometimes as high even as 39. 3. In acute nephritis, when blood is absent the quotient is high; when hæmoglobin is present the globulin is, of course, in excess. 4. As the disease becomes more chronic, the quotient sinks, and in the terminal stages of the disease may fall as low as 0.6. This alteration depends upon the condition of the patient rather than upon the state of the kidney, and is probably related to a similar change in the blood plasma. 5. Amyloid disease cannot be distinguished from the ordinary forms of chronic nephritis by the high proportion of serum globulin, as was formerly maintained by Senator. 6. Maguire's suggestion that functional albuminuria is characterized by the high proportion of serum globulin is not correct. 7. In every case the proportion of the proteids to one another varies much in the course of the day, and, in comparing the proportion of these proteids in different cases, it is necessary to examine specimens of the mixed urine of the twenty four hours, and to take into account the nature of the diet. 8. The proportion of serum globulin is always highest during the night. It falls greatly after breakfast, when it reaches its lowest point in the twenty-four hours. In most cases it again rises in the evening. The precise connection of the alteration in this proportion with the taking of food cannot be considered as definitely settled. 9. Milk diet, as observed by Lecorché and Telamon, has a peculiar effect in increasing the proportion of serum-albumin. 10. The amount of proteids passed appears to bear a tolerably direct proportion to the amount of proteids taken, and, excluding milk diet, the increase of the proteids in the urine on a rich diet in these substances appears to be chiefly due to an increase in the serum albumin. 11. The variation in the proportion of the albumin to the globulin in the urine is frequently so great that we can hardly believe that it is connected with a similar change in the plasma. The few experiments we have performed would suggest that a high pressure favors the transudation of serum-albumin, while a low pressure increases the proportion of globulin transuded.—*British Medical Journal.*

Separation of the Funis from the Child during Parturition.—Dr. James Ferguson gives an account of this rare case in the *British Medical Journal*: On November 26th he attended Mrs. L—— in her sixth confinement. Nothing unusual occurred to distinguish the case from an easy labor till the head came almost to the perineum, when, through several successive strong pains, it assumed a stationary position, neither advancing nor receding. This ended, however, by a strong uterine contraction suddenly propelling the head through the outlet. Again, with the head born and the neck grasped in the vulva, there was another period of immobility on the child's part through two full and firm pains. The skin was livid, but no attempt at respiration occurred. He was just introducing his finger with the object of disengaging the shoulders from the maternal parts when, by another powerful pain, the birth was suddenly completed. On turning the child round, he was struck to find no umbilical cord attached, while dark venous blood was oozing freely from the navel. No sign of life remained, and a slight effort to induce respiration only caused increased hemorrhage. The loose end of the funis was found presenting at the vulva. The cord turned out to be of average length and circumference, save that the last two inches abruptly doubled in thickness, and this portion was of a gristly consistency, and could scarcely be bent to any degree. The broken surface appeared of the same hard structure throughout. The separation from the child took place exactly at the junction with the skin, and could not have been more neatly effected by a dissecting scalpel. The child was a particularly well-developed male, with no indication of death predating the labor.

The cause of the two pauses in the child's descent, and of the sudden propulsion following, was, no doubt, due to the rigid condition of the bit of cord in the first place, and to sudden fracture and separation, perhaps in two stages, in the second. As to the actual condition of the thickened portion, he could only detect—the examination being hurried and superficial, however—an apparently cartilaginous structure, and no calcareous deposit. The case was not only unique in his experience, but he can find no similar instance recorded in any work of reference within reach.

Hæmoptysis in Apparently Healthy Persons.—Hæmoptysis is a symptom which has always a serious aspect about it, causing both physician and patient to be apprehensive of impending pulmonary tuberculosis; but that too much significance should not be assigned to it *per se*, is shown by the report of some cases published by Dr. Newman. In the first case a man, aged forty-nine, complained of frequent attacks of hæmoptysis, the amount of blood lost varying from a few drops to an ounce and a half. Despite the attention of many practitioners from time to time, the attacks continued, and had lasted for sixteen months before he came under the care of the author. No physical signs were discoverable in the chest, and the patient's health was good. Inspection of the larynx and trachea, the latter being visible as far as the bifurcation, failed to show at the first three examinations any morbid condition. At the fourth examination the larynx and trachea were observed to be tinged with blood; and after the patient had cleared the air-passages as well as possible by coughing, a small bleeding point was noticed immediately below the anterior commissure. The

blood oozed from it slowly and trickled down the trachea. With local treatment the hemorrhage ceased and complete recovery followed. In another case the hæmoptysis had continued for nine months, the patient being a man aged fifty six; the amount of blood lost varied between an ounce and an ounce and a half, and the attacks usually occurred once a month. No physical signs of phthisis could be detected in the chest. After, however, a large hemorrhage, the naso-pharynx, pharynx, larynx, and trachea were carefully examined. The two latter were deeply blood-stained as far as could be seen, but no bleeding point could be discovered; but two days afterward a little erosion was observable on the anterior aspect of the trachea, just below the cricoid cartilage, and the surrounding mucous membrane was moderately injected. Two days subsequently to this the lesion just described had completely disappeared. Twenty-six days later the hemorrhage recurred, and the lesion referred to was observed for a second time. Local treatment was persisted in for six weeks, and a complete cure was accomplished. In a third case the hemorrhages were more serious. On one occasion a pint of blood was lost. After one severe hemorrhage an examination was made by the author. The pharynx and soft palate were swollen and relaxed, and the vault of the pharynx was very shallow from before backward. On the upper and back part of the pharyngeal arch a number of distended veins were discovered. At the beginning of the examination these varicose veins were intact, but fron the irritation produced by instruments, bleeding was induced which continued till the next day. The first treatment adopted was the employment of solid chromic acid to the distended veins. This failed, however, to effect any improvement, and a few days afterward electrolysis was employed, the positive pole being applied to the pharynx, and the negative to the neck. This treatment was adopted on three occasions, with the interval of a week intervening. Ultimately the veins were completely occluded, and three years later the patient had never had any return of the hemorrhage.—*Medical Press.*

Physical and Chemical Changes in the Blood in Disease.—Dr. Sciolla, of Genoa, at the recent Congress of the Italian Society of Internal Medicine, reported some interesting experimental researches on physico-chemical changes of the blood in different morbid conditions. He stated that the density of the blood diminishes during acute febrile states, and the first stage of convalescence, increasing afterward with greater or less rapidity according to the nature of the disease. The same thing is always observable in the density of blood-serum, with this difference, that it begins to increase as soon as there is any improvement in the condition of the patient, sometimes, indeed, a short time previously. The density of the serum is increased in malaria, while that of the blood is diminished. Tuberculous affections, unaccompanied by serious alterations of the blood, only slightly modify the density of blood-serum and blood. The densities of blood-serum and blood are both diminished in catarrhal jaundice, probably owing to defective assimilation of food. The density of the blood is almost normal, while that of the serum is increased, in cirrhosis of the liver, and in cancer of the gall-bladder. The densities of blood and serum are not sensibly diminished in benign forms of diabetes. The greatest diminution in the density of the blood is observable in diseases accompanied by grave morbid changes of the blood. The most striking examples were those seen in three fatal cases of pneumonia. Dr. Sciolla also observed the chemical modifications of the blood in pneumonia, typhoid fever, malaria, anæmia, and in leucæmia. About the fourth or fifth day of croupous pneumonia there is a marked diminution in the albuminoid substances of the blood, especially the globulin. The extractive matters increase during the febrile period. In convalescence the quantity of albuminoids, especially of the globulin, and also that of the serin, increase. The dry residue of the blood is not much diminished during the first stage of the disease, but it is so during the second stage, and continues less until convalescence. In typhoid fever the albumins of the blood diminish progressively (unless the diarrhœa is excessive), and this diminution occurs at the expense of the serin. The extractive matters gradually diminish during the whole of the febrile period, and even during the early stage of convalescence. In malarial fevers the amount of the albuminoids in the blood serum (especially the serin, and in a less degree the globulin) and the dry residue of the blood diminish rapidly, while the dry residue of the serum and the extractive matters of the serum increase with the duration of the fever, the former in a slight degree, the latter enormously. In chloro-anæmia the albumins of the serum (especially the globulin) and the dry residue of the blood diminish, while the dry residue of the serum increases. In leucæmia the amount of dry residue of the serum is very high, and the albuminoids of the serum are also above the normal, the serin being especially increased.—*The Lancet.*

The Local Treatment of Enlarged Spleen.—Mosler contributes an article on this subject. He commences by drawing attention to the dangers of operative interference in cases of enlarged spleen, and states as the results of his experience that the hemorrhagic diathesis is often associated with an enlarged spleen, which naturally renders the operation of extraction an exceedingly dangerous one, and what adds considerably to the risk is that the tendency to hemorrhage often remains latent in such cases (*The Lancet*). In addition to this danger, there is another more probable and serious one—namely, that the lymphatic glands on other parts of the body may already be affected, in which case splenotomy may only hasten the general disease. Mosler, has, therefore, for some time tried other local remedies rather than extirpation. He first used parenchymatous injections of a two per cent. solution of carbolic acid, and later injections of Fowler's solution. With the latter he obtained good results in a patient with an enlarged spleen, the result of malarial fever. Mosler also employed Hamond's method of injection of ergot, and also Jager's processes—simple puncture, electro-puncture, and injections of sclerotic acid. In Jager's case death followed a few hours after the injections of the sclerotic acid. In spite of fourteen punctures and four electro-punctures, no trace of hemorrhage was found in the parenchyma of the spleen. One fatal case which Mosler had, caused him to frame the following rules for the injection of drugs: 1. Only enlarged spleens of firm consistence are suitable, provided these are not accompanied by an extreme degree of anæmia, or by evidences of the hemorrhagic diathesis. 2. Before the injections a prolonged use of drugs is necessary (these drugs are not mentioned by name), in order to act upon the contractile elements of the spleen, and so diminish the amount of blood in the organ, and, as far as possible, to render narrower the lumen of the vessels; the application of an ice-bag over the spleen is especially useful a few hours after and before the injection. 3. Fowler's solution is the most satisfactory drug to inject. Mosler states that he has recently had very good results following on the injections in enlarged leucæmic spleens. In one or two cases in which the disease proved fatal there was shown to be considerable thickening and constriction of the capsule, and Mosler is of opinion that this contraction has a favorable result not only by producing a general lessening in size of the spleen, but also by checking the leucæmic process, thus considerably improving the prognosis.

The Surgery of the Liver.—Professor Tansini, of Modena, recently performed total extirpation of a hydatid cyst of the liver, at the same time excising a portion of that organ. The hemorrhage was controlled with some difficulty, and the patient, a woman, was up and about in less than a fortnight.

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & Co., Nos. 56 and 58 Lafayette Place.

New York, February 7, 1891.

SHOULD A POOR MAN STUDY MEDICINE?

A GENERATION ago a question such as the above would have laid the propounder open to the imputation of mental deficiency. As well might one have asked whether a poor man should work for his living. But to-day things have changed, and we venture to affirm that many, if not most, of our readers have already answered this question in the negative. Formerly an honest, hard-working, educated physician, with good health and the necessary perseverance, was certain of success in his calling. His knowledge was his capital, and he was always able within a short time to turn this to his own advantage as well as to that of his patients. But what is the case now? A man may be a veritable encyclopedia of medical knowledge, his acumen may equal that of any of the masters of the therapeutic art, and his industry may send a blush to the cheek of the proverbial ant, yet if he lack the one essential his other talents will avail him nought. A young man who is to succeed in the practice of medicine to-day must not only be industrious, talented, and well educated, but he must also possess the qualities that make the successful man of affairs, he must be alert to see and profit by anything that can be turned to his own advantage and not be too tender of the sensibilities or the interests of his competitors; in other words, in the expressive language of the time, he must be a "hustler."

The cause of this change in the conditions of successful medical practice is not hard to find, indeed it is so evident to the most superficial student of the economic side of our profession that we feel almost as though we were insulting the intelligence of our readers by even alluding to it. It is, of course, the dispensary evil. The profession is not overcrowded, that is to say, it is not overcrowded with good men, but the competition with the dispensaries is too great for most men to struggle against with any hope of success. We have no fresh arguments to introduce in support of this assertion, it is too self-evident to require any. But familiarity with wrong-doing sometimes blunts the sense of justice, and so the following picture of one of the pauperizing institutions in our city may seem at first glance overdrawn, but a little reflection will convince almost anyone of its faithfulness to the facts.

During the past summer the editor of an esteemed contemporary in the West paid a visit to New York, and while here went the round of the most important dispensaries. How these institutions impressed him the following will show. We give his exact words, suppressing only the names of the clinics, for his remarks apply to all, and would that they might be heeded by all!

"We had an opportunity recently," he says, "of visiting some of the hospitals and clinics of the great metropolis. It was while the International Congress was in session, so that very few of the most prominent operators were to be seen. But this did not prevent our getting an insight into the workings of the institutions, clinics, etc. The latter presented many features of especial interest. The buildings of the two largest, being comparatively new, the appointments and facilities for clinical teaching and for handling the large number of patients in attendance daily are of course of the latest and most approved order. But what was most striking, outrageous as it is, was the great number of well and fashionably dressed, evidently well-to-do people, both male and female, who applied for free treatment. It appears that the anxiety for abundance of material is so pressing that there is hardly any discrimination in this respect. At the —— on Tuesday, August 12, there were five hundred and sixty-eight patients, and, judging from their appearance, we venture to say that three-fourths, at least, of them were abundantly able to pay for private medical service. We have, of course, heard the numerous complaints that have been awakened among the New York physicians on this account, but we were not prepared to witness the spectacle presented there, of gayly-attired, semi-aristocratic humanity going in droves, petitioning for free prescriptions, free medicines. A notice of the presentation of a beautiful prize-etching to the patient who had made the most visits in a month would have surprised us none at all."

Is it any wonder that young men whose means are small often lose heart after struggling for a time against so powerful and so unscrupulous a rival as every dispensary is? If he has wealth he can wait and patients will come to him slowly, or if he is possessed of the gift of "push" he can perhaps work into a dispensary himself and thereby convert it into an ally instead of a rival. The esteemed contemporary from whom we have just quoted, after telling of the large and lucrative practice enjoyed by the dispensary visited, wishes to know what we are coming to. "The profession of New York," he says, "would be justified in arising in emphatic and effectual protest against such wholesale diversion of their revenues. Physicians are swindled and beaten out of an undue proportion of the fruits of their labor already by the public in general, so that it would appear but seemly for the profession to avoid and suppress, as far as possible, this rapidly increasing source of pecuniary loss through a channel of its own making."

Very true. But how is it to be done? And until it is done should a poor man study medicine?

REMINISCENCES OF ARMY MEDICAL LIFE.

IT is a well-understood fact in historical literature that no writer can faithfully chronicle the events of his own time. He may, indeed, give an accurate narrative of what happens, but he is too near the scenes of action, and

too much a part of the actions themselves and of his own times, to fully understand the relation of one event to another. Hence some of our most valuable historical pages are penned long after the heroes and heroines of them have turned to dust. The history of our own Civil War is a notable illustration. The works of Greely, Abbot, and Pollard have nobly fulfilled their purpose, but the true history of the war is yet to be written. The historian of the future must consult the *Century* War Papers, the numerous pamphlets and newspaper articles which are cropping out from time to time, and must wait at least another quarter of a century before he can properly attempt his task.

One side of army life has not been greatly written about. We refer to the services rendered by the volunteer medical force, by men who have since settled down to private practice, and who have a perfect mine of valuable information at their disposal. Much of it, indeed, may be of interest primarily only to the survivors of their own companies and regiments, but it is from just such detailed sources as these that authentic history is compiled.

Dr. W. W. Potter, of Buffalo, has published in the *Buffalo Medical and Surgical Journal* some very interesting reminiscences of this nature. A reprint lies before us, and we have found its perusal very interesting. "It is an undeniable fact," he says, "that the Medical Department was very near to the hearts of the millions of patriotic people who, while compelled to remain at home, contributed with lavish hands their means and substance for the successful prosecution of the war." This is indeed true, and the public is still glad to read such matter as Dr. Potter has written, giving the experience of daily life in army field hospitals. Many emergencies arose for which no possible provision could have been made, and native ingenuity had to supply the deficiency. On one occasion the doctor performed a consecutive amputation of thigh and arm, out in an open field, during a rain-storm, with no other protection than a rubber blanket held by four men over him and his assistants, and the patient recovered. "It was, moreover, a matter of experience that recoveries were more prompt, not to say more certain, when the soldiers who were disabled by curable diseases were treated in field hospitals. . . . The hygienic surroundings, too, were usually superior to those of large general hospitals, and besides, the sick treated in tents have an incomparable advantage in being able to obtain plenty of fresh air without the dangers of a draught."

We learn that during the war thirty-two medical officers were killed in battle or by guerillas or partisans, nine were killed by accident, and eighty-three wounded in action, of whom ten died. The total cost of the maintenance of the Medical Department of the Army, 1861–65, exclusive of salaries, was over forty-seven and one-third millions of dollars.

We trust that Dr. Potter's contribution to the history of the war will impel many others who served in the Medical Department to bring forward their store of information. All may not have kept such accurate records as the one from which we have quoted, but everyone can make a valuable contribution. We congratulate Dr. Potter that the story of his life in the field with the Army of the Potomac has been so entertainingly told.

CALIFORNIA AND OLD AGE.

Dr. P. C. Remondino, of San Diego, Cal., has written an interesting book upon climate and longevity, which has some practical interest, particularly for the Pacific coast. Dr. Remondino's gospel, as promulgated in his book, is that the art of prolonging life has made but little progress in the past hundred years, that the most important single factor in securing longevity is climate, and that the most favorable climate for longevity is Southern California. There is a smacking of business in this climax which makes one a little suspicious of the doctor's judgment, although we have no positive facts for denying that a residence in California promotes immortality.

Dr. Remondino, however, makes some specific statements which will hardly go unchallenged. He informs us that "a climate like that of California must, from the free access of sea air, possess an immunity from heart and kindred diseases, and the character of its soil must give to its inhabitants a like immunity from cancer!" As a matter of fact, in the twenty southern counties of California there were, during the year 1879–80, 91 deaths from cancer and 124 deaths from diseases of the heart and circulatory system. These occurred in a total of 2,621 deaths. In an Eastern State—Vermont—there were 183 deaths from cancer, and 320 deaths from heart and circulatory diseases in a total mortality of 5,024; so that the ratio, though slightly favorable to California, is not much below in average.

Our author adds that "California has, without exception, considering the extent of its coast, the driest and warmest soil that is to be found in any practically habitable portion of the globe. It has the hardiest, longest-living, and healthiest population imaginable."

If we remember correctly, the Tenth Census gives California, outside of San Francisco, a death rate of over 12 per 1,000, and this is admitted to be a very imperfect census of deaths. Other localities in this country have proclaimed a much lower death-rate than this.

Dr. Remondino's additional assertions that in California arterial changes are rare in the aged, and that atheroma of vessels, calcareous changes, apoplexy, aneurisms, gangrene, etc., are rarely found, must be received with much scepticism in view of the facts above given.

MEDICAL CANNIBALISM.

The New York daily papers of January 27th contain an announcement to the effect that "a dispensary has been organized on the West Side by young graduates of Bellevue and the Columbia Medical Schools. It is to be known as the 'Bloomingdale Clinic,' and will be located for the present at Ninety-eighth Street and Amsterdam Avenue."

Our views on the subject of these new dispensaries are well known. We claim and contend that they are not needed by the poor people of this city, that they tend to pauperize the people, and defraud the doctors of their rightful fees.

There are already far too many such so-called charitable institutions, and the present case seems a particularly aggravated one; for the doctors are themselves setting up the dispensary and warring upon the livelihood of their professional brethren. It is claimed that there is

no dispensary on the West Side between Sixtieth and 130th Streets. Is there need of one? Are the Roosevelt and Vanderbilt clinics too small to care for the poor (and well-to-do) within a radius of thirty or forty blocks? Does the Manhattan Dispensary complain of over-crowding?

Some excuse may be made for the medical men who do public work in the existing institutions which are under the care of trustees. They very regretfully say, "If we did not do this the directors would speedily find physicians who would gladly fill our places. We will refrain from indiscriminate public service if all other physicians will do likewise."

Are the young physicians who are about to organize the Bloomingdale Clinic actuated solely by a desire to do good to the very poor of the neighborhood? If so, let them seek these people in their homes, or treat them without fee at their offices. Let them do this charitable service unostentatiously, and all honor to them for it. We may have been misinformed in this matter. We hope that we have.

And while we are on this not altogether pleasant subject of hospital and dispensary abuse, let us give a thought to those patients who are under treatment by their family physician, but who, attracted by the name and fame of the *institution*, go to it in order to ascertain "whether their physician is giving them the right treatment." There are many such who apply at every dispensary. Possibly the medical attendant has advised operative procedure, and they go to the hospital to ascertain whether it is, or is not, justifiable. Does the dispensary physician do his whole duty by the family physician in every such case? We hope that he does. Does he ever, by "damning with faint praise," direct the patient, whose case is possibly an "interesting" one, to his own hospital service? We hope that he does not. The ground of vantage is all on the side of the consultant. If he fails to be straightforward and honest in his dealing with his absent medical brother, he deserves all the exposure and public reproach which can be brought upon him.

VITAL STATISTICS OF THE HEBREWS IN THE UNITED STATES.

The Census Office has recently published a bulletin containing a number of statistics concerning the Jews in this country. The statistics were obtained by means of a special inquiry addressed to about 15,000 Jewish families throughout the country, who had been in America at least five years, and answers of a satisfactory nature were obtained from over 10,000 families, including nearly 70,000 individuals. In many respects the figures obtained corresponded closely with the result of a large number of investigations into the vital statistics of Jews in Europe, yet there were some important, though as yet slight, modifications caused by the changed conditions obtaining in this country.

The number of males among the Hebrews was found to be considerably larger than that of females, the proportion being as 109.53 to 100, the figures for the general population being 103.57 males to 100 females. There are two points brought out by these tables which are opposed to the popular impression as to the members of this race; these are that there is a comparatively low marriage rate and a low birth-rate among the Hebrews in this country. The marriage-rate was only 7.4 per 1,000 annually, as compared with 18 to 22 per 1,000, which is the average rate among the general population in the Northeastern States. In New York City and vicinity it was above the average for that section, being 8.94, but was below the average in the Western and Southern States. The average age at marriage is greater among the Jews than among the general population, and these two facts will serve to explain for the most part the second point to which we just referred, namely, the low birth-rate. The average number of children was 4.66 for each mother. Those mothers who were born in the United States average only 3.56 children each, those born in Germany 5.24, those born in Russia and Poland 5.63, those born in Hungary 5.27, and those born in Bohemia 5.44, figures which show a diminished fertility in the women born in this country. Even this comparatively low birth-rate seems to be diminishing, since there is a falling off in the figures for each of the five years embraced in the investigation, except the last. The number of Jewish children under five years of age is less than it is in the average population of the country, excluding the negro population, in the proportion of 9 to 13, while from five to fifteen years it is greater in the proportion of 29 to 23.

The death-rate among the Jews is very low, being only 7.11 per 1,000, a little more than one-half the annual death-rate among other persons of the same social class and conditions of life in this country, yet this rate is progressively and rapidly increasing. For example, in 1885, the number of deaths reported among the 10,618 families was 332; for 1886, 359; for 1887, 387; for 1888, 442; and for 1889, 542. Among the most active of the causes of death were diphtheria, diarrhœal diseases, diseases of the nervous system (and especially diseases of the spinal cord), diseases of the circulatory system, urinary system, bones and joints, and of the skin, while the mortality of Jews was relatively less from the tubercular diseases, including consumption, scrofula, tabes, and hydrocephalus, than the other peoples with whom they are compared.

The average death-rate is greater among females (7.16) than among males (6.47); but this excess of deaths among females occurs after fifteen years of age, the rates under fifteen being for males 10.64, and for females 9.15. Among males the general death-rate is greater among those whose mothers were born in the United States, and least among those whose mothers were natives of Russia or Poland. When, however, the death-rates of the living male population between fifteen and forty-five years of age are compared, it is found that the average death rate was 3.10, while for those whose mothers were born in the United States it was 1.98, for those whose mothers were born in Germany 2.86, for those whose mothers were born in Russia and Poland 1.59, and for those whose mothers were born in England and Wales 6.32.

The death-rate among the native born of native-born parents was 9.15, and among the foreign born, 7.61. Between the ages of twenty-five and forty-five the death-rate among single males is decidedly greater than among married males. For females between the ages of twenty-five and thirty-five the death-rates are for the single 2.48, and

married 4.55, indicating the increased dangers due to conception and parturition; but among females over thirty-five years of age the death-rate is greater among the single than it is among the married.

The facts of most interest and of greatest importance brought out by the statistics are the progressively diminishing birth-rate and the progressively increasing death-rate. If these continue to decrease and increase respectively the time must come when immigration will fail to supply the deficiency, and the race will then be actually threatened with extinction.

THE LYMPH AND THE CORONER.

The recent notification, by one of the coroners of this city, that all cases of death from the use of Koch's lymph shall be duly investigated by him, has rightly occasioned much comment in medical circles. The grounds for such an action are by no means clear, nor is any possible good which can come of it made manifest. The opinion of the Corporation Counsel, upholding the right of the coroner to institute such proceedings, is open to serious question. The statute defining the functions of the coroner has no possible bearing upon the point at issue. The law provides that the duties of this official pertain only to such cases of death in which there is reason to suspect criminal intention or criminal incapacity as the cause of said death. There is no other interpretation to be made of the following clause: "Whenever a coroner is informed that a person has been killed or dangerously wounded by another, or has suddenly died under such circumstances as to afford a reasonable ground to suspect that his death has been occasioned by the act of another by criminal means, or has committed suicide," it is the duty of the coroner to issue a warrant and take testimony. It can hardly be claimed that there is any foundation for suspicion of criminal motive, culpable ignorance, professional incapacity, or unlawful assumption of responsibility on the part of those gentlemen whose patients have died while under treatment by the lymph. Even if it were scientifically proven that the use of the lymph had been in any way responsible for the death of the patient, the case would no more be one for a coroner than would any other in which a fatal result occurred, consequent upon the use of any medicine or remedy considerately prescribed with the view of ameliorating or curing disease. The law recognizes the right of the licensed and educated physician to use his own judgment in prescribing for his patients, and does not hold him accountable for results unless criminal motives, unlawful intention, or culpable ignorance are charged. In cases of doubt the Health Board is the only proper authority to take the matter in hand and, if necessary, to turn it over to the coroner. The public has heretofore been so amply protected by the watchful eye of the Registrar of Vital Statistics as to make it entirely unnecessary for any coroner to magnify his office by acting as a self-appointed censor of strictly professional work.

Allowing the right for the coroner to assume such new functions, what good can come of his investigations?

Can it be possible that he shall attempt to decide upon the merit or demerit of a method of treatment of which necessarily he knows nothing, and concerning which the leading pathologists here and abroad have as yet been unable to form a positive opinion? Especially absurd would be such an attitude in view of the fact that no case of death, in this country at least, has been directly chargeable to the lymph. Even in those reported from Berlin, it has been by no means absolutely proven that the same unfortunate results might not have occurred independently of the use of the new fluid, and in the natural course of a disease with well-known fatal tendencies. There are many points connected with the lymph which are yet unsettled; they are still on trial, but not before a coroner's jury.

PREACHING AND PRACTICE.

The *Journal of Inebrity* has demonstrated, to its satisfaction, that alcohol is always a poison, and never a food, that it causes neuroses in the young, angiopathies in the old, and psychoses at all ages; that inebriety is always a disease, and generally curable at the establishments of the inebriate specialists. With the accomplishment of the above modest tasks, the *Journal* now proceeds to convert the general profession to habits of total abstinence. "The physician," it says, "of all others should be the last one to use spirits in moderation or excess. The use of alcohol as a beverage is direct evidence of ignorance of the teachings of modern science, and failure to keep up with the growth of medical advance."

The *Journal* is right. Indulgence in alcohol in any form is antagonistic to the ideal and perfect life as led by the inebriatorists and other world-betterers. So is eating pie and sitting up late nights and writing too many medical articles. It is hard to be perfect, but every one can attain an ideal in some direction. We advise every one of our readers to be a total abstainer.

But we do this on physiological grounds and not because the physician must necessarily practice all that he preaches. We cannot admit that this moral principle applies to the medical profession. The physician must direct his patient to do the very best thing possible for the said patient's health, but he need not take a dose of calomel every ten days because he had advised this, nor need he deny himself the rare and temperate consolation of tobacco because his patient is forbidden its use.

But alcohol is all wrong, and we hope the *Journal* will continue its propaganda against it.

THE PRIVATE HOSPITAL SYSTEM.

One of the outgrowths of modern medicine is the private hospital system. While these establishments have been common enough in Europe for some time, they are a comparatively new feature in this country. The last ten years have witnessed the equipment of more private hospitals than did the whole previous half-century. In this city there are certainly more than a dozen such institutions, not including the private "retreats" for the insane.

Naturally, it is the general surgeon and the gynecologist who have the most of these, but there are ophthalmologists, dermatologists, neurologists, and others, who have their own quarters for their private patients.

The private hospital system is a natural development from the necessities of practice and the limitations of

public hospitals. Some patients dislike the idea of going to a general hospital under any conditions. Besides, these institutions are owned and conducted by boards of laymen who put such restrictions upon the attending medical men, that often their best services must be rendered gratuitously to patients who could readily pay a proper fee. But, furthermore, the number of competent men with wide reputation is relatively large, and the number of appointments to hospitals is small. These appointments are made, to a considerable extent, by favor rather than by merit. Hence the private hospital becomes a necessity; or, otherwise, competent surgeons must turn severe cases over to colleagues who are no more competent.

It has been found that when the private hospital is a success, it is a very great success from a pecuniary point of view. As long as justice is done to patients this is a commendable fact, for it adds to the pecuniary resources of the profession. And, however painful it may seem, it is true that those pursuits which furnish the greatest pecuniary rewards attract the best talent, and the highest class of intellect. If the organization and work of the medical profession become so adjusted that it can secure better practical results to the patient and better material reward to the physician, the profession will reach a higher plane. The private hospital system, when properly used, seems to be a help in this direction. It has its abuses, but then we must trust to an enlightened professional opinion to guard against these.

News of the Week.

Metropolitan Medical Society.—The following officers have been elected for the ensuing year: *President*—I. P. Oberndorfer, M.D.; *Vice-President*—I. Oppenheimer, M.D.; *Corresponding Secretary*—Henry S. Stark, M.D.; *Recording Secretary*—A. N. Strouse, M.D.; *Treasurer*—T. J. McGillicuddy, M.D. Meetings are held bimonthly at members' residence. Membership limited to seventy-five.

Special Lectures by Professor T. Gaillard Thomas.—Professor T. G. Thomas will deliver four lectures on "The Pathology of Uterine and Ovarian Diseases," at eleven o'clock on the mornings of February 27th, March 2d, 6th, and 7th, at the College of Physicians and Surgeons. They will be well worth hearing.

A State Institution for Drunkards.—The Massachusetts Legislature enacted a law two years ago for the establishment of a State institution for drunkards, or to use the scientific euphemism, inebriates. The statute incorporates this institution, giving $150.000 for 200 beds, and provides that certain habitual drunkards, or, in the words of the law, dipsomaniacs and inebriates, may be committed to it in a manner similar to the present commitment of the insane to insane asylums. It may be considered as between a prison and an asylum. Although legally an asylum, or rather, in the words of the statute, a hospital, it is regarded by the trustees as medically a prison. Any person there confined, except voluntary patients, may be held as long as the trustees think best, within limitations similar to those in force in regard to inebriates in insane asylums. The trustees have bought a farm near Foxborough, with about thirty acres of good farming land, and have made contracts for the erection of buildings on the cottage plan. The Superintendent is Dr. Marcello Hutchinson. Such an institution was started in this State some years ago at Binghamton, but it utterly failed to accomplish its purpose.

Lunacy is not Increasing in the State of New York in proportion to the increase in population. Such is the happy news furnished us by the State Commission in Lunacy. In New York City and Brooklyn the relative increase is particularly small. A study of the commissioners' statistics upon which their conclusions are based shows that the facts are as yet a little inadequate for positive conclusions.

The New Era in Medical Teaching.—The Ohio Medical University is a new institution recently incorporated in Ohio, to be located at Columbus. The new university will consist in a department of medicine and surgery, a department each of dentistry, pharmacy, midwifery, and a training-school for nurses; and will be supplemented by a large new hospital, the gift of a number of the wealthy philanthropic Protestants of that city, and which, it is said, will cost about two hundred thousand dollars when completed. One of the prominent features of the new university will be the abandoning of the system of instruction by lectures, and adopting, instead, the plan of class teaching, similar to the methods now employed in the literary colleges. A graded course of three years of nine months each is to be adopted, which will include daily examinations and grading of the students, thus doing away with the necessity of a final examination.

The Misfortunes of a Quack.—The Paris correspondent of *The Lancet* writes that a quack was convicted and heavily fined for illegally practising medicine at Albertville. No sooner did this happen than several of his numerous friends and patients opened a subscription list in a local café, with the view of meeting the fine and legal expenses. The subscription list was, however, seized by the police, and those who had so far subscribed were prosecuted by the State and fined. But the staunch defenders of the quack determined not to let the matter rest here. They appealed to the higher tribunal in Chambéry, where, however, the decision of the lower court was confirmed. This tribunal, in giving judgment, laid it down that the prohibition enjoined by the law against opening a public subscription for the purpose of covering the expenses and fines inflicted by judicial authority and judgment in matters criminal and *correctionnelle* applies to the illegal practice of medicine. The defendants were now further mulcted in the expenses of appeal thus dismissed. Our quack will hardly retire from practice after this manifestation. The proverbial coach and four of O'Connell will carry him through yet.

Liability of Members of Societies for Subscriptions.—The British Gynecological Society is said to be in a prosperous condition, but it has had to have recourse to rather extraordinary measures in order to be so. It has instituted legal proceedings to compel recalcitrant members to pay up. It has the satisfaction of having obtained a judicial decision validating the liability of Fellows in this respect.

The Dangers of Liqueurs.—At the Académie de Médecine, M. Lancereaux has made a report on the dangers of certain alcoholic drinks made from essences, which were being very freely used in France to-day. Those who suffer from absorption of essences present different symptoms to those usually met with in ordinary alcoholic poisoning. The individual experiences at the hour of sleep painful sensations of the limbs like pins and needles, which prevent all repose, anæsthesia of these parts follow, and the reflex of the patellæ is notably diminished. The principal character of these symptoms is that of being always symmetrical. Mental troubles supervene very rapidly, and paralysis is more frequent from essence drinking than from alcohol. What is rather remarkable is the fact that about eighty per cent. of the patients M. Lancereaux examined were women. The essence known as créme de menthe is very popular with both sexes in the country.

A Suit for a Ruptured Perineum.—The money value of the perineum came very near being judicially determined by a Kansas City court. A physician of that town was sued for $11,000 damages because he allowed the perineum of the plaintiff to be ruptured and did not subsequently sew it up. The plaintiff withdrew the case.

Shall Pupil Nurses be Paid?—This question has been repeatedly discussed of late, but has been generally answered in the affirmative. The Training School for Nurses of Harper Hospital proposes to abolish the practice, to give the pupils only eight hours' work, and to let them have one-fourth of what they earn in private nursing.

Novel Surgical Treatment of Exophthalmic Goitre.—Dr. Lencke, of Hamburg, reports two cases of exophthalmic goitre in which surgical treatment of goitre produced "great relief" of symptoms. The first patient was a lad of seventeen, who had the classical symptoms of the disease—rapid heart, palpitation, prominence of the eyes, and goitre. He came under treatment on account of a sudden access of the swelling, which by the pressure it exerted produced great distress with extreme cyanosis. The heart was rapid and irregular, no rest or sleep could be obtained, and the patient was in imminent danger of asphyxia. Tracheotomy was performed, and a week later one-half of the tumor was extirpated. The operation was accompanied by much hemorrhage, which, however, stopped spontaneously, and recovery was uninterrupted. The symptoms rapidly vanished, the exophthalmos disappearing, and the heart becoming quiet and regular in action. The improvement was maintained until the time at which the paper was written.

The second case was that of an older patient, and was attended with similar results.

A Big Medicine Man.—A full-blooded Sioux Indian has just graduated in medicine at the Boston University.

Typhoid Fever in Albany.—The daily papers have recently contained sensational reports of the prevalence of typhoid fever of malignant type in Albany. It is true that more cases are reported as typhoid fever this year than usual, yet it is a question whether the disease is true typhoid, as many of the cases are extremely atypical in their symptoms and course. The cases are not of a virulent nature but are in the majority of instances mild, and the death rate in this city is no greater than usual. Gastric disorders and diarrhœas are rather extensively prevalent, though the course of them is not definitely known. It is very probable that some of these are reported as typhoid fever. It is said that the river water is impure, and much of the sickness is attributed to this cause, yet it is doubtful whether this is the case, for the water-supply is the same as it has been for several years, yet no unusual amount of typhoid fever has been reported until this year. Two years ago, this coming spring, a somewhat similar outbreak occurred in the shops of the New York Central Railroad at West Albany. Most of the cases here were not really typhoid fever, yet a few were typical instances of the disease. The water supply at this time was from other sources than the river. Since then, however, river water has been brought in and the drainage has been improved, and this winter that part of the city is free from the fever reported elsewhere.

The American Electro-Therapeutic Association was organized on January 22, 1891, at the Academy of Medicine, No. 17 West Forty-third Street, New York, by the adoption of a constitution and by-laws, and the election of the following officers: *President*, G. Betton Massey, M.D., Philadelphia, Pa.; *Vice-Presidents*, William James Morton, M.D., and Augustin H. Goelet, M.D., New York; *Secretary*, William H. Walling, M.D., Philadelphia, Pa.; *Treasurer*, George H. Rohe, M.D., Baltimore, Md.; *Executive Council*, Horatio R. Bigelow, M.D., Philadelphia, Pa.; Franklin H. Martin, M.D., Chicago, Ill.; William F. Hutchinson, M.D., Providence, R. I.; Frederic Peterson, M.D., New York, and Channcey D. Palmer, M.D., Cincinnati, O. The object of the association, as stated in Article Second of the Constitution, is, "The cultivation and promotion of knowledge in whatever relates to the application of electricity in medicine and surgery." The association starts with a strong and vigorous membership, and has every prospect of a most useful and successful career. The next meeting will be held in Philadelphia, in September of this year. William H. Walling, M.D., *Secretary*, 2005 Arch Street, Philadelphia, P.

The President of the United States has Received Some Medicine and placed it where it will presumably do the most good. The medicine consisted of five vials of Koch's lymph sent him by Minister Phelps. Two vials were sent to Surgeon-General Hamilton, of the Marine Hospital Service, Washington, and one vial each to the Polyclinic Hospital, of Chicago, the Charity Hospital, of New Orleans, and the City Hospital, of Indianapolis.

Suit by a Hospital.—Roosevelt Hospital has brought suit against the elevated railroad for $100,000, on account of damage to the institution done by the noise of the trains.

Medical Legislation for Texas.—The Committee on Medical Legislation of the Texas State Medical Association have drafted suitable bills, one to regulate the practice of medicine, and one creating a State Board of Health; and will present them to the Legislature early in the present session.

Medical Examiners for the State of Wisconsin.—The Wisconsin Legislature has recently passed an act creating three Boards of Medical Examiners, representing the Wisconsin State Medical Society, the Homœopathic Medical Society, and the Eclectic Medical Society of the State respectively. Each board is to consist of three members, who shall serve for three years, their terms being so arranged that one shall be retired each year, his place being filled by the appointment by the governor of a new member from a list of candidates submitted by the respective societies. These boards shall hold meetings for the examination of candidates on the second Tuesday of July, October, January, and April. The several boards must submit to the supervisor of medical examinations, who cannot be a practising physician, lists of questions for examination in the usual branches, and from these lists the supervisor will select at random the questions for each examination and present the same to the candidates. Each candidate must present to all three of the boards satisfactory evidence of good moral character, that he is more than twenty-one years of age, that he has obtained a competent common-school education, that he has studied medicine three years, including two years in some legally incorporated medical school, and that he holds a legitimate diploma conferring the degree of Doctor of Medicine, or a diploma or license conferring the full right to practise all branches of medicine and surgery in some foreign country. Each member of these several boards shall receive a compensation of ten dollars a day for each day actually spent in the performance of his duties as examiner, and in addition shall be paid for legitimate expenses. The secretary of each board shall receive the additional sum of three dollars for each and every candidate examined. The supervisor of medical examinations, who shall not be a practising physician, is to be appointed by the governor and will hold office until his successor shall be appointed. He is to receive one dollar for each license to practise medicine granted by the boards. No one, not previously entitled to practise medicine under the existing laws of the State, will be permitted to practise after the first day of July, 1891, unless he has received a license from one of the legally constituted boards of medical examiners. Any candidate who fails at one examination will be allowed to appear before the board again after an interval of six months.

The New York Academy of Medicine.—At a recent meeting of the Pediatric Section of the New York Academy of Medicine, Dr. A. Caillé was elected Chairman, and Dr. W. L. Carr was re-elected Secretary. At the annual election of officers of the Orthopedic Section of the Academy of Medicine, Dr. Samuel Ketch was elected Chairman, and Dr. T. Halsted Myers, Secretary, for the ensuing year.

The Centennial of the Connecticut State Medical Society.—This society will be a hundred years old in October, 1892. Arrangements are now being made to observe the occasion by means of a grand reunion of the profession of the State. Dr. Gurdon W. Russell, of Hartford, has been appointed to prepare a medico-historical sketch of the colonial period and subsequent years up to 1792, and Dr. Francis Bacon, of New Haven, has been invited to write the subsequent history.

Professor Rudolf Virchow's seventieth birthday will be celebrated with due honors on October 13th of this year. Professor Waldeyer, Drs. W. Reiss, Bartels, Langerhaus, Ad. Meyer, and Professor B. Fraenkel have issued a circular inviting friends and admirers of the great pathological anatomist to subscribe to a gift of honor, which is to take the shape of a golden portrait medal (about 19 centimetres in diameter).

The American Nurses' Association.—The object of this organization, having its headquarters in New York, is a union for protection, provision in sickness, an annuity fund, burial insurance, and friendly promotion of the professional interests of nurses; also it is proposed to have a loaning fund which may be drawn upon by members when disabled in the pursuit of their regular occupation.

Regulating Dental Practice in Connecticut.—The action of the several medical societies in this State which have taken steps to have a bill presented to the General Assembly to prevent the practice of medicine by quacks, has aroused the dentists, and this year an effort will be made to secure the passage of a bill to regulate the practice of dentistry.

The Canadian Samson.—Canada has a man who is credited with lifting 3,993 pounds, almost two tons, without any harness. He is 5 feet 9½ inches tall, and weighs about 240 pounds. With regard to his habits, he says: "I abstained two years ago from liquor and tobacco; before that, used to take them regularly. I am three times better off since then. I gained in strength enough to lift 700 pounds more in these two years. Liquor is a bad habit, anyway. Tobacco, too much of it, is bad. I am three times better off since I gave them both up." He eats five or six pounds of meat daily.

Bequest to a Hospital.—The Springfield (Mass.) Hospital, by the will of the late Mrs. Catherine H. Lombard, receives a bequest of $20,000.

The Dietetic Gazette is now edited by Dr. Simon Baruch, of this city, and is published monthly. Its pages contain much that is interesting and practical.

Dr. S. S. Strong, of Saratoga, proprietor of Strong's Sanatarium, died on February 1st, aged seventy-eight years.

The Actual Dose of Parataloid must be somewhat less than one six-hundredth of a grain.

Quaker City Journalism.—Our esteemed contemporaries of Philadelphia are getting somewhat noted for their eccentricities in journalism. Some time ago one excellent journal started out with the announcement that it would hereafter publish no "Reports of Societies," on the ground that such reports were not interesting or useful matter. Another contemporary has recently announced that hereafter it will not publish regularly any editorials. We are told that the editorial space "is often an excuse for foisting upon a subscriber much useless material, and for this reason the pages usually so employed in the past in the *News* will be taken up with notes on current literature." It only remains now for some enterprising Philadelphia medical journal to abolish its original department, and shut down upon its correspondence; we shall then see what constitutes an interesting medical journal from the Quaker City stand-point.

The Chemistry of the Tubercle Bacillus.—At the clinic of Professor Nothnagel a very interesting investigation on the chemical composition of the tubercle bacillus has been carried out by Dr. Hammerschlag, who had commenced his studies on the bacillus at Professor Nencki's chemical laboratory at Berne. Two analyses of two different culture series were made. The cultures were 0.2–3 months old, and 7.5 and 2.2 grammes moist bacteria were obtained for the analyses. They contained between 88.7 and 83.1 per cent. water, between 28.2 and 26.2 per cent. substances soluble in alcohol and ether, *i.e.*, lecithin, fats, and a poisonous substance which, injected subcutaneously into guinea-pigs, produced clonic spasms of the muscles, acceleration of pulse and respiration, and finally general convulsions and the death of the animal, from twelve to fifty-one hours after the injection. The residue which remained after the extraction with ether and alcohol, contained an albuminoid body and cellulose. Therefore the tubercle bacilli seem to differ from other bacteria by the high percentage of substances soluble in alcohol and ether, as they contain between twenty-six and twenty-eight per cent., while bacterium termo contains only 7.3, Friedländer's diplococcus only 1.7, the bacillus anthracis only 7.8 per cent. It has been found that the presence of carbohydrates and glycerine is necessary for the growth of the bacilli, and that albumins alone are not sufficient as nourishing media for the tubercle bacillus, which differs thereby from the other bacteria. By experiments on rabbits it was proved that a poisonous albuminoid body is formed in the cultures by the bacilli, which (the dose used varied between 0.2 and 0.4 gramme) produced, a few hours after the injection, a rise of temperature amounting to 1° or 2° C., lasting for one or two days, without any other effect, even after repeated injections. The glycerine bouillon cultures lost their virulence on being kept for eight months at a temperature of 39° C., but they retained their vital activity. In experiments made on animals with such cultures of eight months' standing, only negative results were observed with regard to the production of immunity in animals by such cultures, and Hammerschlag, Falk, and Charrin have failed to produce a protective inoculation.—*Lancet.*

Mr. Victor Horsley has resigned his position as professor-superintendent of the Brown Institution.

Lazaretto not to be Moved.—The movement for the removal of the quarantine station for Philadelphia and the entire State received the unqualified disapproval of the Board of Health at a special meeting of that body recently called for the consideration of the subject. Dr. Ford, former president of the board, as chairman of the Lazaretto and sanitary committee, submitted a report characterizing the proposed plan as a scheme for private interest involving an enormous outlay of public money, and calling upon both branches of the municipal legislature to use their influence for the defeat of the bill now pending in the State Legislature, which was adopted by the board. A memorial was also sent to the State Board of Health asking their co-operation with the local boards to secure the defeat of the measure, and setting forth reasons why the Lazaretto should continue to occupy its present site. Among the reasons were that no public necessity exists for its removal; that the present site is eminently suitable for a quarantine station and is better adapted to the requirements of the station than any other could possibly be; it has an unfailing supply of water from an artesian well, and has been supplied with every convenience at the expense of thousands of dollars, including a system of underground drainage. The friendly relations existing with the Breakwater station are also cited as a reason, together with the facts that no evil has resulted to surrounding districts, and that its removal would be an uncalled-for expense without a corresponding gain to tax-payers.

Pronounced a Leper in her Old Age.—A case of leprosy has been reported to the Wisconsin State Board of Health. The patient is a Norwegian woman who recently came from the old country. She is a resident of Buffalo County and has had leprosy for eighteen years. The woman has four adult children, but on none of them have symptoms of the disease appeared.

Against Refilling Prescriptions.—The Marion County, O., Medical Society recently decided to ask the Legislature to enact a law prohibiting druggists from refilling prescriptions unless ordered by the prescribing physician.

A New Theory of the Pathology of Chlorosis.—Dr. Scholz, of Bremen, advances a new theory and treatment for chlorosis. The deficiency of the blood in corpuscles and iron he regards as a secondary complication. The primary trouble consists in a contraction of the blood-vessels, which are, he says, too full, or in the condition termed by the older physicians "plethora ad vasa," the blood being—or becoming—abnormally serous. Long ago his attention was struck by the cold and livid condition of the skin in anæmic subjects, and he was led by this to employ hot baths, together with gentle friction, in the treatment, with the view of acting directly upon the skin, so as to improve the vitality and nutrition generally. The success of his first attempts was so marked that he was encouraged to persevere in this line of treatment, and he has since had many opportunities of extending his experience with it. Hot baths diminish the plethora by relaxing the tension of the vascular system, which is high, quickening the circulation, and thus relieving the palpitation, dyspnœa, and other symptoms. In thirty cases where the distress of the patient was very great Dr. Scholz has gone a step further and supplemented the hot bath by venesection.

Tapeworm as a Cause of Puerperal Fever.—Professor Paramuchi has reported a case of puerperal fever in which a very unexpected cause was brought to light—that is to say, the putrid remains of a tapeworm in the uterus. No untoward symptoms seem to have occurred until the tenth day after delivery, when the patient became feverish and prostrate and lost her appetite. Septic fever subsequently developed. Regarding the question of how the tapeworm came to be in the uterus, inquiries elicited the fact that a few days before her confinement the patient had been suffering from dysenteric symptoms, and, in view of her condition, had not taken any medicine. It is probable, says *The Lancet*, that the worm managed to migrate after delivery from the rectum to the vagina, and that there it died and became putrid.

Reviews and Notices of Books.

THE BIOGRAPHY OF EPHRAIM MCDOWELL, M.D., "THE FATHER OF OVARIOTOMY." By his Granddaughter, MARY YOUNG RIDENBAUGH. Pp. 558. New York: Charles L. Webster & Co. 1890.

THE appearance of this work has been awaited with no little interest by the profession, since the name of McDowell has long been a household word. Hitherto he has been to many a vague and unreal, though heroic character, but hereafter we shall feel as if we knew him intimately. The present biography is, on the whole, worthy of its subject. Although prolix and uneven, containing much that might be omitted as entirely irrelevant, the portion which is devoted to the life and deeds of McDowell himself (including Chapters III. to VII.), is of entrancing interest. Chapter V., containing the account of that memorable first ovariotomy, is tantalizing by reason of its brevity. But as we read that the operator himself left no written memoranda of his technique, we must accept the scanty record which is given. Only one-fifth of the work is devoted to the man himself, the remainder being largely a history (with a decided polemical tendency) of the development of ovariotomy, a subject which has already been discussed in monographs by different authors. The last hundred pages contain various eulogistic addresses, letters, etc. This work will meet with a warm reception from the American profession, since it sets forth the achievements of one whose fame is our common inheritance. Whatever literary defects the present memoir may possess, it serves worthily a noble purpose in perpetuating the grand character of one of the heroes of medicine. The type, binding, and, in fact, the *tout ensemble*, of the book are beyond reproach. An excellent portrait of McDowell and a picture of his memorable operation add to its value.

HYSTÉROPEXIE ABDOMINALE ANTÉRIEURE ET OPÉRATIONS SUR-PUBIENNES DANS LES RÉTRODÉVIATIONS DE L'UTÉRUS. Par MARCEL BAUDOUIN. Avec 22 Figures dans le Texte. Pp. x., 375. Paris: Lecrosnier et Babé. 1890. (Anterior Abdominal Hysteropexy and Supra pubic Operations in Retro-displacements of the Uterus. By Marcel Baudouin. With Twenty-two Illustrations.)

THIS volume is a model of French prolixity. No one but a Frenchman would think of writing a monograph on a subject which possesses interest only for a limited number of gynecologists. Not that it is without considerable interest as presenting an exhaustive study of the development of a single operation; we only protest against the excessive amount of details, by the omission of which the book might have been condensed at least two-thirds, with advantage to the reader.

The author's study of the literature of his subject has been most exhaustive, as will be seen in Chapter II., in which he reviews the history of hysteropexy (or, as we term it, "hysterorrhaphy") from 1859 to the present time. Ample justice is done to American operators, beginning with Sims. Some idea may be gained of the thorough manner in which the subject is treated if we state that sixteen different methods of intraperitoneal, and four of extraperitoneal fixation are described and their advantages discussed at length. Elaborate tables show that hardly a single case reported in any country has escaped the search of the diligent author. The illustrations are particularly clear and intelligible, and will constitute the most valuable feature of the book to the busy surgeon, who has not time to wade through the mass of description which accompanies them.

A Woman's Health Protective Society has been organized in Pittsburg, Pa. At present it is engaged in a crusade against tobacco-spitting in street-cars.

Society Reports.

MEDICAL SOCIETY OF THE STATE OF NEW YORK.

Eighty-fifth Annual Meeting, held at Albany, N. Y., February 3, 4, and 5, 1891.

W. W. POTTER, M.D., PRESIDENT, IN THE CHAIR.

FIRST DAY, TUESDAY, FEBRUARY 3D.

Inaugural Address.—The President, DR. W. W. POTTER, of Buffalo, expressed his appreciation of the high honor conferred upon him when he was elected President; referred to the Medical Examiners' Bill, which he said ominously signalled the last decade of the nineteenth century; expressed the opinion that it was an improvement on that originally proposed; that the Society should stand as a unit against any change in its provisions until it has been given a fair trial. In calling attention to suggested legislation regulating the practice of midwifery, he stated that in Erie County midwives were at present required to be examined by four or five physicians before being allowed to practise their art.

Appointment of State Medical Examiners.—DR. ROOSA moved that a special committee of five be appointed by the President to name fourteen physicians from among whom, according to the new law, the State Regents might select seven to act as State Medical Examiners. Carried unanimously. The President appointed later, Drs. Roosa, Sherman, Roe, Flood, and O'Leary.

Railroad Surgery.—DR. CLINTON B. HERRICK in this paper enjoined antiseptic surgery, divided railroad injuries, for convenience, into those of the head, of the hand and fingers, and those of the extremities. One should always save the thumb if possible. As bearing on the seat of amputation, he said great speed of the train might call for higher amputation.

A Stiff Finger Useless.—DR. C. T. POWERS strongly endorsed one point made in the paper, that it was useless to save a finger of a laboring man if it should afterward be stiff. The thumb, however, was very important, and should be saved if possible.

Objects to the Term "Railroad Surgery."—DR. MINTER thought railroad surgery did not differ from ordinary surgery, because railroad injuries did not differ from injuries produced by machinery, falls, etc. Injuries to the kidneys, however, were more likely to take place in railroad accidents, but there was no occasion for railroad surgeons organizing as a distinct body from civil surgeons.

A Report of Cases of Injury to the Knee-joint, with Remarks.—DR. HENRY FLOOD in this paper reported a case of injury to the patella, one of dislocation of the knee-joint, two of injury to the knee, one of fracture at the knee-joint; all of which illustrated the importance of two great principles in surgery, thorough drainage and absolute rest.

An Account of the Chronic Sequences of an Attack of Apoplexy.—DR. J. LEONARD CORNING read this paper. The paralysis was one-sided in the body, might be general, or localized in one limb or part of the limb; was usually on the opposite side from the cerebral hemorrhage; recovery of power might extend over weeks or months; might never be complete; the occurrence of contracture was an unfavorable symptom for complete recovery; we may assume that it is due to degenerative change in the pyramidal tract in the cord. Anæsthesia is much less persistent than motor derangement; it may give place to hyperæsthesia; temperature sense has in few cases been entirely lost; trophic disturbances and severe inflammation of joints sometimes take place; also associated movements, mental disturbances, usually in the form of dementia. Facial symptoms were also mentioned.

Committee on the President's Address.—THE PRESIDENT appointed on this committee Drs. Suiter, Daniel Lewis, and Minter.

Necrosis of the Ribs Complicating Pott's Disease.—Dr. Lewis A. Weigel reported a case of this somewhat rare complication of Pott's disease. The eighth, fifth, and sixth ribs were involved, the former perhaps by extension of the tubercular disease from the vertebræ in that immediate region, the fifth and sixth probably by burrowing of pus in this unusual direction. He exsected the necrosed bone.

Brief Notes on Gastrotomy, with Report of a Successful Case.—Dr. Charles T. Powers, of New York, read this paper. The case was one of cancer causing complete occlusion; the stomach was first fastened to the abdominal wound, and was opened on the fifth day; life was prolonged some months, when the patient died of the original disease. The indications for the operation in general were obstruction from various conditions, as tumors internal and external to the stomach, especially cancer; also obstructions in the pharynx and œsophagus. The operation was not a long one; he would use chloroform or ether, would operate early, increase alimentation very gradually; to prevent leakage was of greatest importance and seemed best accomplished by the double balloon cannula. The mortality in malignant cases had only slightly diminished since Dr. Gross had collected his statistics, in 1884, Dr. Gross giving twenty-nine per cent. of deaths, Dr. Powers twenty-seven per cent. in malignant cases, collected since 1884. In non-malignant cases, however, it had fallen to eighteen per cent. His statistics, which he did not claim to be complete, included ninety-nine cases.

Would Use Cocaine.—Dr. Minter, of Buffalo, said gastrotomy was considered an easy and simple operation in Germany, frequently enough performed, cocaine being for many reasons preferable to ether or chloroform.

The Electro-cautery in Surgery, with Special Reference to Its Use in the Nose, Mouth, and Throat.—Dr. David H. Goodwillie, of New York, presented a complete electro-cautery outfit for use in surgery, including saw, knife, wire loop, etc. No technical knowledge of electricity was longer necessary. Soon one would use in surgery electric power obtained only from storage cells or directly from the dynamo. The superiority of the electro-cautery wire, in the removal of naso-pharyngeal tumors, over the usual method by the knife was considered evident. He also used this instrument in removing the tonsils, tumors, etc.

Operative Procedures in Acute General Suppurative Peritonitis.—Dr. W. E. B. Davis, of Birmingham, Ala., selected this title for his paper, although it contained the statement that when general peritonitis had become suppurative it must prove fatal. Every case of septic peritonitis, he said, must become suppurative if time permitted. He had known cases of gunshot and other injuries of the abdomen result in suppurative peritonitis in twelve, twenty-four, forty-eight, and seventy-two hours. The necessity for an early operation was evident. The author referred to an operation which he had described in another paper, in cases of acute suppurative peritonitis where there was great intestinal distention with gases; paralysis was usually present, and could not be relieved by puncture with the needle. The viscera should not be taken out. He incised the intestine, let out the gas, and washed it thoroughly. The peritoneal adhesions were also broken up and the abdomen washed out.

The Progress of Cystoscopy in the Last Three Years.—Dr. Willy Meyer, of New York City, read an abstract of his paper. He confined his remarks to the progress which has been made in regard to the diagnosis and treatment of kidney diseases with the help of the cystoscope. The report of two cases of renal disease, which lately occurred in the speaker's practice, widely illustrated the advance in this line. In both Dr. Meyer had been enabled to make the diagnosis of suppurating kidney as well as establishing indication and prognosis of nephrectomy, by carefully observing the jets of urine which passed the urethral orifices. In one of the cases he had timed these jets on each side, and had thus made out that the work done by the diseased kidney was insignificant to that of its fellow. Nephrectomy was successfully performed by the speaker in both cases, and the specimen obtained proved the correctness of the points gained by cystoscopy, in every particular. The new French cystoscope, manufactured by Carrière, will further enable the cystoscopist to catheterize the ureters in an easy and simple way, and greatly help to increase the importance and value of this new field of surgical diagnostics.

A Plea for Rapid Dilatation, Holt's Operation, in the Treatment of Urethral Stricture.—Dr. F. R. Sturgis based his preference for rapid dilatation or divulsion in urethral stricture on three facts: 1. Avoidance of severe hemorrhage. 2. Avoidance of severe chill. 3. Less danger of septic poisoning.

Dr. S. D. Powell also expressed his preference for divulsion over internal urethrotomy, but with his own instrument devised nearly ten years ago.

Dr. Daniel Lewis preferred the bulbous bougie.

Dr. Minter preferred the urethrotome.

Dr. Cregor thought divulsion was liable to be followed by nervous symptoms.

A Case of Imperforate Anus of Eight Weeks' Standing.—Dr. William Hailes, Jr., treated this case by gradual dilatation, which was continued by the mother after the size had reached the point admitting her little finger.

A Contribution to the Surgical Treatment of Jacksonian Epilepsy.—Dr. Edward B. Angell related a case of Jacksonian epilepsy, affecting the arm centre mostly, which had progressed to an extreme degree, and led him to have an operation performed, removing, in the absence of definite lesions, a large part of the motor centres. The bone was replaced. Hernia cerebri developed, together with inflammatory changes, and the patient died in the third week.

Regarding Abolition of the Death Penalty.—A communication was read, received from Dr. N. M. Curtis, advocating abolition of capital punishment, and requesting the appointment of a committee to report to the Society on the subject.

The President appointed on this committee Drs. A. Jacobi, B. F. Sherman, and Wey.

Committee on Experimental Medicine.—Dr. J. G. Curtis, of New York, on behalf of the yet living members of this committee, read a report and asked that the committee's powers and duties be reaffirmed. The report was adopted.

The Prize Essay.—Dr. Eugene Beach read the report of the committee, signed by Drs. George F. Shrady, Daniel Lewis, and Beach. Four essays had been received in competition, all valuable, but the award was to that on "The Pathology of the Caisson Disease," by Howard Van Rensselaer, of Albany.

Forms of Melancholia.—Dr. E. C. Spitzka said there were three states of mental depression classed as melancholia, one being a "sort of hypertrophy of an ordinary fit of the blues;" the second, mental depression from some special morbid fear; the third, the form of melancholia usually described or referred to in the text-books, and often associated with a suicidal tendency. The latter might be accompanied by, but be independent of, symptoms pointing to organic lesions—Argyle-Robinson pupil, absence of tendon reflexes, etc. It should not be forgotten that in the forms of melancholia patients yet manifested original dispositions of character, the choleric being still choleric in his melancholy, etc. He wished to call especial attention to the differential diagnosis between melancholia and that change developing sometimes in persons past fifty, due often to atheromatous changes, and in which the diagnosis is much more serious. The latter patients were not so profoundly depressed and indulged in projects and eccentricities, as the truly melancholic never did.

The prognosis in melancholia was favorable.

Operation for Tumor of the Centrum Ovale.—Dr. Landon Carter Gray then read a paper upon a "Tumor

of the Centrum Ovale," causing motor paralysis and paralysis of the muscular sense, and at the autopsy a round-cell sarcoma about the size of a hickory-nut was found about one-fourth of an inch beneath the cortex, at the junction of the leg and arm centre of the posterior central convolution. The patient was a young man, thirty-eight years of age, who was brought to Dr. Gray from Richmond, Va., by Dr. I. H. White, two weeks after motor paralysis had begun in one lower extremity. As there was a large tumor in Scarpa's triangle, and as an angioma had been removed some time before from the popliteal region, Dr. Gray was led to believe that the symptoms were caused by an intra-cranial tumor. There was motor paralysis of one lower extremity, and paralysis of the muscular sense, slight headache, but no mental symptoms whatsoever. The patient was advised to go home and settle up his affairs, and to have trephining done if he grew worse. Two weeks afterward he was brought to New York, and was found to have a motor paralysis and a paralysis of the muscular sense, also of the upper extremity on the same side with the paralysis that already existed. The patient was gradually becoming comatose. The headache had become very much worse. There were no changes in the optic disk, very slight impairment of the tactile sense, and no motor or sensory paralysis or tremor of any kind other than that mentioned. The patient was operated on by Dr. J. A. Wyeth, but neither by palpation or an exploring needle could the tumor be found. Two days after the operation death ensued, and at the autopsy the tumor was found as above located. Dr. Gray then went over the histories of cases showing the localization of the muscular sense, and showed that this case was the most significant one on record, in the limitation and the rapid growth of the lesion, as indicative of the location of the muscular sense.

Medical Department of the State Library.—Dr. Samuel Ward offered the following resolution, which was adopted: "That the Committee on Legislation be instructed to use every effort in their power to procure legislation establishing and providing means of supporting a medical department of the State Library."

Committee on Nominations.—*Member at large*, Dr. Van Derveer; by districts in numerical order, Drs. Daniel Lewis, E. D. Chipman, W. H. Bailey, Eugene Beach, J. H. Glass, Henry Flood, J. P. Creveling, F. H. Potter.

Two Cases of Traumatic Hysteria.—Dr. Henry Hun read a paper including the report of two cases. In his concluding remarks he said it had been his object to report two cases of well-marked functional nervous disease, belonging to such a clear type of disease as hysteria, which were the result of accidents. Similar cases had been reported by many observers, so that he thought the occurrence of hysteria following and caused by accidents could not be doubted. He thought many of these cases, as well as of those of traumatic neurosis, could be much earlier cured if the patient would enter a special hospital.

The Treatment of Detachment of the Retina.—Dr. David Webster had the past year performed a surgical operation in nine cases of this kind. He thought that this procedure offered some degree of hope, where other measures had caused no improvement.

Dr. Roosa thought the surgical procedure justifiable, but great reliance could not be placed upon a permanent cure.

Dr. Noyes expressed himself even more conservatively.

On the Use of Platinum Instruments in the Extraction of Cataract, etc.—Dr. Gruening, of New York, presented a number of eye instruments, made in part or wholly of platinum, which possessed the special advantage of permitting perfect asepsis by heating to a glow in the spirit-lamp. In devising them he had in view the still further reduction of cases of sepsis following operations.

The Causes of Asthenopia.—Dr. Roosa delivered an abstract of this paper. He denied the existence of perfect refraction. He denied the existence of muscular asthenopia. The common cause was astigmatism. Children squinted because of errors of refraction which they were attempting to overcome, not because there was muscular insufficiency causing asthenopia.

Dr. Noyes took emphatic objection to Dr. Roosa's statement that asthenopia was never caused by muscular insufficiency. He related cases where other measures, including correction of errors of refraction, had failed to give relief from marked nervous trouble, yet cutting the muscles had effected a cure.

Dr. Roosa would explain Dr. Noyes's cases by hypnotic effect of the operation in a neurotic patient.

Migraine and Headache from Eye-strain.—Dr. Peter A. Callan in this paper stated that he had been forced by experience to regard eye-strain as the cause of seventy-five per cent. of all cases of functional headache and migraine.

One Thousand Cases of Ocular Headache, and the Different States of Refraction Connected Therewith.—Dr. W. F. Mittendorf in reading this paper said the views expressed therein were in harmony with those of Dr. Roosa. Most of the thousand cases were seen within two years; most were in private patients. The cause in nearly all cases was astigmatism, often with hypermetropia, less frequently with myopia. In only seven cases was muscular insufficiency the cause of the headache. The treatment was not alone by glasses; he emphasized the importance of gymnastic exercise.

Double Optic Neuritis of Malarial Origin.—Dr. H. W. Ring, of New York, reported the case. He expected to have the diagnosis of malarial origin of the double optic neuritis in this case called in question, yet he thought it was correct.

The Pathology of Appendicitis.—The evening session was devoted to the discussion of appendicitis. The first paper was on pathology, by Dr. Minter, of Buffalo. He described three forms of appendicitis: 1, an adhesive form; 2, with local peritonitis and abscess; 3, universal peritonitis with perforation into the peritoneal cavity. An abscess starting in an appendix must be intra peritoneal, but might perforate in a direction that to open one need not invade the peritoneum.

Dr. A. G. Gerster, of New York, also made some verbal remarks on the subject of the pathology of appendicitis, especially as it had a bearing on operative procedures. As had been stated already by Dr. Minter, the cause of appendicitis was to be sought in stenosis. Yet there were some cases of perforation without stenosis. It might result, for instance, from tubercular ulcers, and from typhoid ulcers. Foreign bodies in the appendix were seldom the cause. The appendix being muscular, had the power to cast these out when not constricted, otherwise inflammation and perforation from this cause would be very common. He believed the most common cause of appendicitis was catarrhal inflammation, which either started in the appendix or caput coli—oftenest, it seemed, in the latter. Thus the cure of mild cases of appendicitis could readily be accounted for. The tumor found in appendicitis was usually located in the right iliac fossa, but the appendix being movable and sometimes long (he had seen it five inches in length), it might be felt at some place quite distant. The adhesion, so to speak, to the surrounding parietes might be small, almost pointed, or broad. The gravity of an operation was much less when the adhesions to the abdominal parietes were such as to permit of the tumor being entered without invading the free peritoneum. He impressed the importance of finding the location of such adhesions in order to operate with greatest safety.

The Indications for Early Laparotomy in Appendicitis.—Dr. Charles McBurney, of New York, read the first paper discussing this subject. Peritonitis in the male was in the vast majority of cases an inflammatory process originating in the appendix. Many of the milder cases of appendicitis recovered, as did also a few of the severer cases.

The author then dwelt on individual symptoms in relation to an early operation—pain, rigidity of the abdominal muscles, vomiting, fever, the pulse, tympanites, tumor. As a rule, rapidly increasing distention was a positively unfavorable symptom. A tumor might not be appreciable the first few days, but as a rule it could be detected by the second or third day; in very mild cases it was absent. There was danger of obscuring the symptoms by too much opium. The patient should be kept at rest. Mild cases could be controlled without operation in twenty-four hours. In somewhat more marked cases there would be fever of 101° to 102° F., decided sensitiveness, more rapid pulse. This might soon come to a standstill, or go on increasing, calling for early operation. The character of some cases would be determined in less than twenty-four hours, indicating an operation. In severe cases the symptoms at an early period were even more marked. To wait seven or more days, it was possible the patient would recover; he was, however, more likely to die. An operation at this period offered much less chance for success than if performed earlier. If there were increasing signs, even in milder cases, at the end of thirty-six hours, he would operate. He had operated in twenty-four cases since May, 1888, all seriously threatening life; all recovered except one. Most were operated upon by the second or third day, only one after a duration of a week.

Dr. W. W. Keen, of Philadelphia, read a paper on the same subject. Every case of perityphlitis should be regarded as primarily an appendicitis, unless the contrary was proven. Clinically he recognized five forms: 1, mild cases, usually ending in resolution without the formation of abscess; 2, perforating appendicitis followed by general peritonitis; 3, limiting abscess, ending in resolution or death within three or four weeks. Occasionally it perforated into the peritoneum. The fourth class followed a chronic course. The fifth class included cases of recurring appendicitis. Only exceptionally was an operation called for in the first class; the contrary was true of the second class. An exploratory operation was comparatively without danger, and should be performed in doubtful cases. In a general way, it could be said an operation should be performed by the second or third day, when there was abdominal pain, most marked in the right iliac fossa, tenderness at McBurney's point, nausea and vomiting, temperature of 101° to 102° F., tumefaction, œdema of the abdominal wall, rigidity of the abdominal muscles.

The Technique of Operative Interference in Appendicitis.—Dr. L. A. Stimson, of New York, read a paper on this subject which cannot be abstracted in few words. Recovery was not impossible with antiseptic precautions and cleanliness, even though the contents of the abscess came in contact with the free peritoneum—a fact which disposed of Dr. Gerster's objection and the necessity which he had claimed for opening at the seat of adhesion and avoidance of exposure of the free peritoneum.

Dr. Francis Bacon, of New Haven, gave his experience in operating in forty cases of pericæcal abscess; all recovered except two. He had seen many cases of what he would now regard as appendicitis, which had ended in resolution. The course which he took in those cases, expectancy, would perhaps be now regarded by Dr. McBurney as indicating unjustifiable temerity.

The Propriety of, and the Indications for, the Resection of the Appendix Vermiformis during the Quiescent Stage of Chronic Relapsing Appendicitis.—The author, Dr. R. F. Weir, felt less conservative regarding exploratory operations and operations for cure than when he wrote a paper a year ago. He had, since then, collected twenty-four cases on which he could base some deductions. There was but one death in the twenty-four, therefore the danger of the operation must be slight. It was impossible, in most cases of recurring appendicitis, to distinguish positively the perforating from the non-perforating form. One should not be guided by the frequency of the attacks alone in deciding whether an operation should be undertaken, but also by their severity and duration. The risk of the operation might be greater than that of the disease, in which case it would not be justifiable. Each case must be a guide unto itself.

The Relation of the Physician and Surgeon in the Care of Cases of Appendicitis.—Dr. Albert Van Derveer, of Albany, pointed out in this paper the necessity for an early operation in many cases, if life was to be saved, consequently the physician should become expert in recognizing symptoms of appendicitis, and call the surgeon in consultation at once. The latter must be responsible for the results if an operation were undertaken.

There was further general discussion on appendicitis, by Dr. Montgomery, of Philadelphia; Dr. Davis, of Alabama, and others.

Second Day, Wednesday, February 4th.

Discussion on Pelvic Inflammation in Women.—Dr. A. F. Currier read an introductory paper on this subject. In pelvic inflammation in women there was pain, swelling, and elevation of the temperature, as in inflammation elsewhere. The important point was to determine the cause, what tissue was involved, to what extent, what was the best form of treatment. These points would be discussed by others.

Pathology.—Dr. Raymond, of Brooklyn, in a paper on the pathology of pelvic inflammation, expressed the opinion that pelvic cellulitis, while rare as an independent entity, did sometimes occur. It could be caused by contusion, by transmission of infection from the uterus through the vessels, or by apoplexy. It might end in resolution or abscess. The pus might burrow, find an outlet, and complete recovery take place even without treatment. Chronic cellulitis bore the same relation to the acute as ashes did to fire. A second class of cases included pelvic peritonitis, which might arise in connection with constitutional disease, sepsis, rupture of a Graafian follicle, exposure; it might be circumscribed or involve the whole pelvic peritoneum. Pus might form, especially in virulent septic cases. A third division included salpingitis, which, however, seldom occurred alone. The great majority of these cases were due to endometritis, either catarrhal or septic. Ovaritis constituted another class of the pelvic inflammations. Clinically he recognized acute ovaritis and degenerative or chronic ovaritis. If in any of these forms the inflammation subsided before pus formed, he thought there would be less trouble from adhesions if an operation were performed. Where pus existed laparotomy was called for, or evacuation through, say, the vagina.

Dr. W. Gill Wylie, of New York, also read a paper on the pathology of pelvic inflammation, in which he stated that his views had not changed since five years ago, when he related some cases and said that, nine times out of ten, so-called cellulitis was due to salpingitis, or inflammation which had extended from the uterus to the tubes. He would now state this proportion as 99 to 1. Pelvic cellulitis had been found by him only as a result of diseased appendages, now and then it followed immediately on sepsis after labor. Retroversion with adhesions meant really salpingitis with adhesions. The cause of sepsis producing tubal disease was nearly always poison introduced at labor or by the operator. Gonorrhœa was a much less frequent cause than was generally supposed. Tamponing the vagina or using tents often caused septic matter to be forced up into the tubes.

Syphilis and tuberculosis were exceptional causes.

Radical Treatment.—Dr. L. S. McMurtry, of Louisville, stated, in discussing this phase of the subject, that pelvic cellulitis was so rare that it might be passed on this occasion. On the other hand, pelvic peritonitis was common and dangerous. In most cases it could easily be traced to infection. The only treatment which would cure suppurative disease was surgical removal.

The authors of other papers on this subject were absent.

Proposed Law on Embalming.—Dr. Suiter read a paper relating to the subject of embalming by undertakers and its legal bearings, and offered a resolution approving of a bill to be presented to the Legislature, regulating this matter. It was adopted. The Society also approved, on motion of Dr. Jacobi, of the proposed bill to appropriate $450,000 by the State for care of the insane.

Catarrh and its Cure.—Dr. O. B. Douglas, of New York, in this paper, said that cure would depend upon removal of the cause. The usual cause was trauma, or, rather, deformities resulting more or less remotely therefrom. Where mucous surfaces were abnormally in contact with each other, catarrh would result, and would be cured only by removal of the cause of the unnatural contact.

Dr. Jarvis strongly approved of the statement that a cure of catarrh could only be effected by curing the condition on which the symptom depended.

The Treatment of Posterior Displacements by the Utero vaginal Suture.—Dr. H. J. Boldt described this operation and gave results. He had performed it himself nine times, and, considering the time which had expired, the results had been satisfactory. He knew of no deaths following it, and could give statistics of one hundred and fifty cases. With present improvements and cautions, there was no danger of injury to the bladder or intestines. Seven patients had been known afterward to bear children.

Drs. Currier and Wylie strongly opposed this operation as being dangerous, and not as promising in success as other more surgical measures.

The Emotional Element in the Puerperal Period.—Dr. Adams H. Wright, of Toronto, in this paper, related seven cases in which the emotional element, alone or partly, caused fever in the lying in state. In two the fever reached, in an hour or two after disagreement with a nurse, 104.5° F., and fell within a day to normal after the nurse had been discharged. He thought physicians were becoming too much disposed to look upon the human system as a mere machine.

The Treatment of Injuries to the Floor of the Vagina.—Dr. Horace T. Hanks, of New York, enforced in this paper the necessity for passing the sutures deeply, and taking up the injured fibres of the levator ani muscle.

Dr. Boldt agreed with this injunction, and Dr. Waldo impressed the need of an early operation, though secondary, before atrophy of the muscles had gone to that degree that restoration was impossible.

Dr. Lewi here read the report of the Committee on Legislation, which referred to matter familiar to the readers of the Medical Record.

An Inquiry into Our Present Knowledge of the Progress of Myomatous Tumors.—Dr. J. F. W. Ross disapproved of attempts to use electricity for curative purposes, as it was inferior to an operation, and was not without danger. He considered electrical treatment of limited service, and only applicable in cases of hemorrhage in which other operative procedures were not permitted. He advocated the removal of ovaries and tubes, together with hysterectomy, in proper cases.

Dr. Van Derveer, strongly condemned palliative, including electrical, treatment, until the patient became greatly reduced by hemorrhages, etc. He favored radical treatment where the symptoms demanded.

Dr. Wylie found electricity effective only when used as a caustic, and this was objectionable, as it caused a scar and laid the basis for future nervous symptoms.

Dr. Currier spoke more favorably of electricity.

The Medical Examination Bill Approved.—On motion of Dr. Daniel Lewis, the Society adopted a resolution disapproving of any change being made in the Medical Examiners bill until it shall have a fair trial.

Discussion on Pulmonary Tuberculosis.—Dr. H. R. Hopkins, of Buffalo, opened the discussion with a paper on the History. He divided the history into two periods, first, from Hippocrates to Sylvius—the period of the art of medicine; second, from the latter date to that of Koch, which he called the period of the science of medicine. He expressed much hope from the present period, especially in the line being pursued by Koch.

Etiology and Pathology.—Dr. Heneage Gibbes, of Ann Arbor, Mich., in this paper spoke of the pathology under two divisions: first, inflammatory, consisting of pneumonic phthisis and the inflammatory form of acute miliary tuberculosis; second, tubercular, consisting of pulmonary tuberculosis and the tubercular form of acute miliary tuberculosis. The etiology of pneumonic phthisis seemed to be as easy of explanation as any other form of inflammation. The process could be explained without supposing there was a specific micro-organism, and the bacillus, in fact, was absent until caseation had set in. The etiology of the tubercular form was more difficult of study, but, since the bacillus tuberculosis might be absent from the commencement, he claimed it was not the cause. Inoculation with this would produce a lesion in susceptible animals, but he denied emphatically that it was similar histologically to the lesions found in acute miliary tuberculosis. The difficulty, however, consisted in getting a *pure* culture of the tubercle bacilli free from morbid products of the lungs. It was to some morbid product or chemical agent that he and Dr. Shurley, who had experimented with him, attributed the disease, and not to the bacillus. By use of a preparation of chloride of gold he had been enabled to render culture of the tubercle bacilli perfectly innocuous to animals in whom they were injected.

Treatment, Including Prophylaxis as Related to Climate.—Dr. Samuel B. Ward, of Albany, pointed out the advantages in phthisis of a climate which was relatively free from humidity, light atmospheric pressure (within certain limits), purity of air, equability of temperature, presence of sunshine. He had found Saranac Lake, N. Y., a desirable place for many consumptives.

Treatment as Related to Therapeutics.—Dr. E. L. Shurley, of Detroit, read this paper, which was founded on views similar to those expressed of the pathology and etiology by Dr. Gibbes. Clinically and theoretically, it seemed unreasonable to attribute so many forms of disease to one cause as had been attributed to the tubercle bacillus. He thought there was some agent at work of a chemical nature, which he had tried to neutralize by injections of certain agents. Chemically pure iodine, and chloride of gold, used in small amount hypodermically, had produced almost uniformly amelioration of the symptoms, in proportion to the small extent of the disease.

Manifestation of Tuberculosis in the Upper Air-tract.—Dr. John O. Roe, of Rochester, treated of this phase of the subject. There were two forms of lesions, lupus and tuberculosis, produced here by the bacillus tuberculosis. The first usually produced rapid destruction, the latter slower destruction. The latter might be primary, or secondary to pulmonary tuberculosis. When primary it should be removed; when secondary one might be able only to palliate symptoms, as by iodine, but never use irritants. Cocaine made an operation simple. Remarkable results had been obtained in some cases of laryngeal tuberculosis from injections of Koch's lymph.

Dr. Herman Knapp showed photographs of tuberculosis of the eye from the incipient to the terminal stage, the case ending in cure and a cicatrix, in a rabbit.

Lobar Pneumonia with the Production of Connective Tissue in the Air Spaces.—Dr. Francis Delafield, of New York, expressed the belief in this paper that a lobar pneumonia with the production of new connective tissue was from the first a special form of inflammation of the lung. He had seen twelve cases which seemed to belong to this group. Such an inflammation lasted longer, and was more likely to become chronic, than cases with simple exudative inflammation. His cases illustrated at autopsy three stages of the disease according to anatomical

changes. The clinical history was also somewhat different from the simple exudative form. It was reasonable to believe recovery was possible.

The Surgical Treatment of Ectopic Gestation.—Dr. Charles S. Read, of Cincinnati, read the paper. He advocated excision of the mass in preference to other methods, or electricity.

Apparent shock from rupture was likely to be due to continuation of hemorrhage, which he believed was nearly always into the peritoneum, and thought it questionable whether one should wait for the patient to rally from the apparent shock.

Papers on Experience with Koch's Lymph.—They were by Drs. A. Jacobi, H. N. Heineman, and W. C. Bailey, of New York, and remarks by Dr. Fox, Dr. Bacon, of New Haven, and Dr. H. R. Hopkins. Most of the experience narrated has appeared in the Medical Record. The speakers generally expressed the view that this marked an important era in curative measures.

For State Examiners.—Committee recommended to the Regents for State Examiners—Drs. W. C. Wey, B. F. Sherman, W. W. Potter, W. R. Ely, George F. Shrady, J. P. Creveling, L. S. Pilcher, Edward B. Angell, George R. Fowler, H. D. V. Pratt, C. L. Dana, Eugene Beach, V. P. Gibney, M. J. Lewi.

The President's Address.—Dr. W. W. Potter chose for his address, delivered before a mixed audience, a subject bearing on the prevention of disease in women. Special attention should be given to the development of girls from ten to fifteen or twenty, the period of change into womanhood. At present this time was devoted to what we called intellectual development. It was too much at the expense of the physical. Faulty methods also applied to dress, the French heel, etc., were condemned. During the catamenial period less school-work should be exacted. The brain and ovaries could not develop at the same time without a proper nervous equilibrium was maintained. Otherwise the one or the other would give way. Usually it was first the ovaries. The pangs of maternity were increased by faulty educational methods far beyond the intent of the Creator expressed in the decree "in sorrow and suffering shalt thou bring forth children." Many of the local disorders in women did not constitute the essential disease, but were simply the expression of a general neurosis brought on by faulty methods during growth. Four hours school work were sufficient between the ages of twelve and sixteen. The mother should supervise the menstrual period. Girls should eat heartily of plain food. Clothes should be warm and supported from the shoulder. Girls should not be compelled to ascend more than two flights of stairs at school.

Third Day, Thursday, February 5th.

On the Causes of Eczema.—Dr. Bulkley recognized different causes for eczema, but back of it lay a systematic condition which must receive more attention even than the local condition in treatment.

Treasurer's Report.—Dr. Porter read his report, which showed: Total receipts, $2,894; expenditures, $2,238; balance, $656.

Enlarging the Transactions.—The Committee on Publication was granted power to enlarge the volume of Transactions.

The Action of Trypsin, Pancreatin, and Pepsin upon Sloughs, Coagula, and Mucus.—Dr. R. T. Morris had found the digestive ferments effectual in digesting coagula, etc., in old abscesses. The cavity was afterward cleansed with water and sterilized by peroxide of hydrogen; pepsin was best.

The Treatment of Gall-stones.—Dr. W. W. Seymour read the paper on the above subject, in which he advocated for obstinate cases operative interference. The views expressed were in substance those published in his recent paper on the subject in the Medical Record.

Incision not Excision.—Dr. Samuel Lloyd read a paper, a review of operative surgery of the spine. Report of a successful case.

Report of the Nominating Committee. - For *President*, Dr. Walter Suiter; *Vice-president*, Dr. W. W Crandall; *Secretary*, Dr. F. T. Curtis; *Treasurer*, Dr. C. H. Porter. *Committee on Arrangements:* Drs. Ward, Bendell, and Partridge. *Committee on By-laws:* Drs. Pratt, Simmons, and Curtis. *Committee on Hygiene:* Drs. Johnson, Bell, Stiles, Babcock, Balch, Bailey, and Clark. *Committee on Legislation:* Drs. Roosa, Lewis, Lewin. *Committee on Ethics:* Drs. Jacobi, Matheson, and Hopkins. *Committee on Prize Essays:* Drs. Fox, Grandin, W. W. Potter. *Committee on Publication*: Drs. Curtis, Douglas, Persons, Porter. *Honorary Members:* Drs. H. C. Wood, W. H. Hingston, Joseph Price, W. H. Taylor, E. E. Montgomery, J. N. Hyde. *Eligible to Honorary Membership:* Drs. L. S. McMurtry, C. A. L. Reed, W. E. B. Davis, A. H. Wright, and J. F. W. Ross. All of whom were duly elected.

Other papers were read by title.

THE NEW YORK PATHOLOGICAL SOCIETY

Stated Meeting, November 26, 1890.

J. West Roosevelt, M.D., President, in the Chair.

Melanotic Myeloma.—Dr. Charles Heitzman presented such a tumor, removed from the right malar region, together with the following history:

A lady, fifty years of age, of healthy appearance, presented herself on November 21st, with a dark, nearly black, discoloration of the skin, about one and a half inch in diameter in this region, reaching to the outer canthus of the eye, and extending downward and outward. The pigmentation appeared mottled, owing to variations in color from gray to nearly black. This spot had developed within the last six years. In its centre was a tumor the size of a split pea, likewise pigmented, of a rather soft consistency. It caused no pain, and had grown within the last six or eight weeks from a minute nodule to its present size. The patient said that the pigmented area had assumed its mottled appearance only since the tumor had begun to grow. The diagnosis was, malignant melanotic tumor. The tumor was excised with a pair of curved scissors, and the hemorrhage checked by liquor of iron. To the naked eye, the whole tumor appeared of a slate color. After hardening in chromic acid solution, one per cent., it was examined microscopically, and its structure found to be that of a net-celled sarcoma of Virchow. Large, spindle shaped, mostly nucleated, protoplasmic bodies produce comparatively coarse network by freely anastomosing with one another. Within the spindles are found a moderate amount of dark brown and gray clusters of pigment of varying sizes. This proves the correctness of the clinical diagnosis. At the same time an extremely unfavorable prognosis must be made, since it is known that wherever such melanotic tumors appear, rapid local growth, dissemination in the skin, and secondary formation of myeloma in internal organs are to be expected, in spite of all attempts at eradication. Within two years, such cases terminate fatally. Spontaneous involution is extremely rare, and possible only when the pigmentation is diffuse, and pigment clusters are lacking.

Dr. H. N. Heineman said that perhaps Dr. Heitzman might recall the case of a young man under twenty-eight years of age, which had been presented to the Society about ten years ago. A tumor caused marked protrusion of the eye, and melano-sarcomatous growths developed in the skin, lungs, brain, and elsewhere, until finally the entire body assumed a dark color. The patient died in less than eighteen months after the original injury. It was interesting to note that the tumor began on the face. In this particular case, the choroid might be considered the source of the pigmentation, but this would not explain its origin in tumors situated in other parts of the body,

except perhaps those located in the deeper layers of the skin.

Dr. Heitzman said that he did not recall the case. He had confined his remarks to cases within his own personal experience. Some years ago his son had prepared and published an article on the subject of the source of the pigmentation. In one case, the tumor of the choroid grew into the vitreous body, thus allowing of ocular demonstration of the fact that the pigment in that instance arose from what the speaker had described in 1873 as "hæmatoblasts." These hæmatoblasts are the forerunners of the red blood-corpuscles, and evidently contain hæmoglobin, from which the pigment is probably developed. In all the cases which his son had examined, similar features were observed, and in the specimens presented this evening close examination would show the peculiar yellow hæmatoblasts—small glistening lumps of high refractive power, evidently containing hæmoglobin. Two varieties of pigment have been found, and these two varieties seem to be at times combined; for, in many instances, the pigmentation of the skin is the primary phenomenon. He had known one gentleman to have black spots on the extremities for years, but finally nodules appeared in other places, and shortly afterward he died. This case would indicate that the pigmentation was a presage of the tumor itself. These pigmented growths far exceeded in malignancy cancer, or even white sarcoma.

In answer to a question from the President, he said that he did not consider the pigmentation to be of blood origin, but formed from the spindle cells. Either the organ in which the tumor grows is pigmented, or else the skin becomes pigmented, as, for instance, in a mole. Such a spot is ordinarily without significance, yet long afterward, if a tumor form here as a result of some slight irritation, melano-sarcoma would probably develop.

The President said that in one case of this kind which he had seen, the trouble began in the right parotid region. Four or five times the tumor was excised, and when he last saw the patient there were a number of these growths in the skin of the abdomen, and the liver was greatly increased in size, and contained hard, rough masses. All of these tumors which he had examined were melanotic. Within a period of fifteen months the patient had hæmatemesis and other symptoms of malignant disease of the stomach.

Abscess of the Temporo-sphenoidal Lobe, Secondary to Otitis Media.—Dr. C. N. Dowd presented a specimen of this condition, and dwelt upon the relations existing between the clinical history and the pathological findings as illustrated in his own case, and in several others which had been published. In the specimen presented the brain was of the normal size, and the dura mater normal in appearance. The pia mater was somewhat lacking in lustre, especially at the base of the brain. Within the left temporo-sphenoidal lobe was an abscess about the size of a hen's egg, having no external opening. The pia mater was softened and thickened where it lay upon the petrous portion of the temporal bone. There was normal brain-tissue, one-half to three-quarters of an inch in thickness between the pia and the abscess, over nearly the entire surface of the lobe. The walls of the abscess were necrotic and of a dark green color, and its cavity was filled with thin, greenish pus. The petrous portion of the temporal bone was broken down and infiltrated with pus. Microscopical examination showed much broken-down material and an infiltration of the abscess-walls with leucocytes. Between the abscess-wall and the pia mater was normal brain-tissue. At the lower portion of the lobe the pia showed exudative inflammation, some of the folds in the sulci extending to the areas of inflammation within. Sections taken from the crus cerebri showed a similar condition, while those taken from the vertex gave no evidence of inflammation. Sections of the dura mater taken from beneath the left parietal bone were normal.

The patient from whom this specimen was taken was a well-nourished boy of ten years, who first came under hospital observation on August 28, 1890. When about three years of age he had had scarlatina, but since then he had enjoyed good health, with the exception of several attacks of earache and otorrhœa from the left ear during the last three or four years. For about a week preceding his admission he had suffered from headache and earache, hot and cold sensations, and evening delirium, yet had played around until the morning of August 28th, when he had vomiting, frontal headache, and fever, but no chill. When seen that afternoon, he was prostrated so that he could hardly walk; there was marked rigidity of the neck, and the head was held extended. On lying down he quickly flexed his legs and arms, and seemed most comfortable in that position. The pupils were equal and reacted to light. There was slight nystagmus, but no ptosis or photophobia. No disturbance of sensation or of the power of motion was noted, and there was a tendency to convulsions. Pulse, 72; respirations, 28; temperature, 103.8° F. The left tympanum was perforated, and there was a slight purulent discharge, but there was no tenderness over the mastoid process. Physical examination of the chest and abdomen revealed nothing abnormal. The urine was alkaline, specific gravity, 1.016, and a trace of albumin. Phosphates were visible under the microscope.

August 29th.—Patient delirious all last night, and had five general convulsions, and several attacks of opisthotonos. This morning he is greatly exhausted, face cyanotic, marked nystagmus. During the day he was rational and took nourishment, but in the evening he again became delirious, crying out in a shrill voice, and becoming so excited as to require to be confined to bed by force.

August 30th.—He was quieter during the latter part of the night, and there were no more convulsions or opisthotonos. The ophthalmoscope showed no change in the optic disks. Bowels were costive, but responded to cathartics.

September 1st.—Slight tenderness over the left mastoid process. He steadily failed, and died on September 3d. Stupor came on two days before this, and gradually deepened into coma. On the first two days of this illness the temperature was 103.8° F.; pulse, 75, and respirations, about 30; but after that the temperature ranged between 99° and 101° F., excepting those sudden variations which are so often present when there is an accumulation of pus. He had the typically slow pulse of meningitis.

It is very remarkable that so extensive a lesion should have given rise to so few symptoms, yet the necrotic condition of the abscess-walls indicated that the abscess had existed for a long time. It is also surprising that the boy should have appeared so healthy and vigorous up to August 20th. It is true that after he came into the hospital there were symptoms indicative of meningitis and of the accumulation of pus, but none which pointed definitely to involvement of brain-tissue.

The location of the abscess explains the absence of marked symptoms from involvement of the cerebral centres; yet the centres of smell and hearing are believed to be situated in the temporo-sphenoidal lobe, that for smell being in the uncinate convolution of the median surface near the apex of the lobe, and that for hearing in the posterior half of the highest temporo-sphenoidal convolution. The history in this case did not indicate that there was any impairment of the sense of smell or of hearing, and it is quite possible that the other side of the brain may have assumed these functions.

It is evident that in cerebral abscess we must not expect definite symptoms from the involvement of the centres, unless the motor tract is implicated, and Gowers states in his work that he is "aware of no case in which the indications of cerebral localization have alone guided the operator successfully." The importance of the local symptoms would, of course, be increased in cases of traumatism or of long-standing inflammation.

In some cases, though not in this, there is evidence of involvement of the cranial nerves or their sheaths, as when choked disk is observed.

These abscesses usually find their way to the surface, and cause a fatal meningitis, or they cause death by rupturing into the ventricles. The probability of their draining through the ear is very remote.

Von Bergmann has collected eight cases in which the diagnosis was made and the abscess opened, and three of these recovered. In one of the successful cases, otorrhœa had existed for eleven years, and acute symptoms with headache, depression, and slight double optic neuritis for about three weeks. The cleansing of the middle ear after opening the mastoid cells gave rise to nystagmus, and the patient had persistent fever, and a chill. A diagnosis of cerebral abscess was made, and an opening one and one-half inch posterior to the external auditory meatus, and one and one-half inch above Reid's base line was made, a trocar inserted, and the abscess drained. The chief symptoms complained of in this series were headache over the affected side, and great pain on percussing this area, nausea and vomiting, and either somnolence or complete loss of consciousness.

In another case, operated by Greenfield, there was a history of left otorrhœa and the development of the left optic neuritis with paralysis of the third, fourth, and sixth nerves. It was thought that there was an abscess of the temporo-sphenoidal lobe, with an extension of the inflammation from the meninges to the nerves. An opening was made about one inch above the zygoma and one and one-fourth inch behind the external angular process, and the abscess drained.

In studying the reported cases, it is noticeable that in the few cases where the diagnosis has been made, there has been, almost without exception, involvement of the cranial nerves or the motor centres. The symptoms of meningitis and those of pus-formation, associated with otorrhœa, have been of importance, but they have not furnished sufficient ground for diagnosticating and locating an abscess.

It is also to be remembered that in about one-fourth of the cases of brain abscess due to otitis media the abscess is not in the temporo sphenoidal lobe, but in the cerebellum, pons, or crura cerebri, and this still further increases the difficulties of the subject. Some aid may be derived from the fact that about one-half of all cases of abscess of the brain are secondary to otitis media.

When the symptoms are urgent, the opening of the mastoid cells is certainly to be recommended. When there is no abscess this may relieve the middle ear by giving a free exit to the pus, and thus preventing further extension of the inflammation; when an abscess is present, such a procedure may furnish ground for a diagnosis by exclusion, as in the case already quoted. It is an operation which is easily performed, and is almost free from danger.

Dr. Heitzman said that it was easy to understand that foci of suppuration might be established by the transmission of staphylococci from other centres of suppuration; but in a case presented to the Society, about sixteen years ago, by Dr. J. Lewis Smith, a child about one year of age, was found to have a small abscess lodged in the centre of the left hemisphere in the medullary substance, in the neighborhood of the left ventricle. The abscess finally burst into the left ventricle and the child died. The brain is in Dr. Heitzman's collection.

Those who accept the theory that there is no suppuration without the presence of one or more of the varieties of staphylococcus, believe that these organisms are circulating in the blood, and that when a traumatism occurs the accompanying stasis in the blood-vessels causes their lodgement at the seat of injury. It is on this theory that they have endeavored to explain the formation of pus in the very centre of the shafts of bones, as occurs in osteomyelitis. Others believe with Strycker, that suppuration is not due to a pouring out of colorless blood-corpuscles, but to the breaking down of inflamed tissue. If the inflammation become plastic around the abscess, new blood-vessels and connective tissue are formed, giving rise to the so called pyogenic membrane. The migration theory of Cohnheim had lost ground lately in Germany.

Dr. J. S. Elv thought with Dr. Heitzman, that the most interesting pathological question in connection with Dr. Dowd's paper was, how these organisms, to which we must now attribute suppuration, found their way from the middle ear into the interior of the brain, without any evidence of direct extension of the process. We are accustomed to think of three channels of distribution of these organisms through the body, *i.e.*, the arteries, the veins, and the lymphatics. It was well known that there are no arteries or veins passing directly through the dura mater and pia into the brain at the part of the brain already cited as being the seat of the abscess. The nearest artery to the tympanic cavity of any size is the tympanic branch of the internal carotid artery; hence, for a poison to be distributed by it, it would be necessary for it to pass against the blood-current to the internal carotid, and thence be distributed by the internal carotid and middle cerebral arteries to the upper portion of the temporal lobe, which is supplied by this artery. The lower portion of this lobe is the more common seat of abscesses, and it derives its blood-supply from the posterior cerebral artery behind the posterior communicating artery of the circle of Willis, which connects this artery with the internal carotid. Hence, in order that anything should be carried to the temporo-sphenoidal lobe by the posterior cerebral artery through the tympanic branch, it must pass through the internal carotid artery, and through the posterior communicating branch, which is absurd, as it is against the blood current. For similar reasons, it is out of the question to suppose that extension of the process could take place through the middle meningeal artery; and in the same way, the veins can be excluded. We are therefore forced to conclude that the lymphatics are the only possible means of transmission. A fine net-work of lymphatics perforate the surface of both dura mater and pia, so that it is not difficult to believe that poison might be very readily transmitted through the dura mater into the arachnoid cavity, and that the lymphatics in the pia mater might again take up the poison and transmit it along the vessels through the sulci into the brain substance. This would also explain the frequency with which abscesses occur in the lower portion of the temporo-sphenoidal lobe. It is well known that micro-organisms often pass into deeper tissues without affecting those through which they have passed. In the case cited by Dr. Heitzman, it is quite possible that the circulation might have carried the poison from the middle cerebral artery to the basal ganglia.

The President said that the lymphatics seemed to be considered a scapegoat for all objectionable things in the human body. The lymphatics were of course an under-drainage system of the body at large; but the direction of the lymph current was not known, and he saw no reason for supposing that the lymphatics on one side of the dura mater should empty micro-organisms into the cerebro-spinal cavity, and the lymphatics on the other side should take them up and dispose of them where they would do most harm. Speaking of the condition of the sense of hearing in these cases of abscess, he would say that in two cases which he had observed, the hearing was unimpaired, although in both cases the drum was perforated by large openings, and the middle ear was practically destroyed. In a case of otitis media which he had seen two or three years ago in his service at Bellevue Hospital, the patient became stupid, and there was intense pain and tenderness over the left mastoid region. Dr. Hartley operated, but found no disease of the mastoid cells or of the veins. The patient died forty-eight hours afterward, and the autopsy showed that the cerebellum on the affected side was almost entirely destroyed. There was no disease of the temporal lobes.

THE NEW YORK ACADEMY OF MEDICINE.

SECTION OF GENERAL MEDICINE.

FRANCIS DELAFIELD, M.D., CHAIRMAN.

Stated Meeting, January 20, 1891.

Election of Officers.—DR. FRANCIS DELAFIELD was re-elected Chairman, and DR. CHARLES E. QUIMBY, Secretary, of the section for the ensuing year.

Phthisis, its Classification, Early Diagnosis, and Relations to Chronic Pneumonia.—DR. R. C. M PAGE read a paper on this subject. Since the recent discovery of Koch for the treatment of tuberculosis in general, he said, it was perhaps more important than ever that we should have a clear definition of the disease so far as it affected the lungs, as well as a convenient and proper classification of its various forms, its relation to certain similar affections, and, above all, the best means for an early diagnosis.

The term phthisis, as now generally understood, signified pulmonary tuberculosis, the germ of which is Koch's tubercle bacillus, and which is infectious under certain conditions. The two grand divisions of the disease were the acute and chronic varieties.

1. Acute phthisis occurred when the progress of the disease was rapid. It might appear to commence as a lobar pneumonia, but its true nature soon became evident. Instead of resolution taking place, as usual, there are signs of softening, followed by excavation, rapid emaciation, and death in the course of a few weeks. Various names had been given to such cases; but inasmuch as phthisis was always and necessarily a tubercular disease, it was sufficient to characterize them as acute pneumonic phthisis.

Acute phthisis might also be a part of that form of the disease known as miliary, general, or disseminated tuberculosis, which affects various organs and tissues throughout the body simultaneously. The physical signs of the pulmonary disease in such cases were simply those of bronchitis; the tubercles being disseminated throughout the lungs. This disease was nearly always secondary to some pre existing tubercular lesion, from which bacilli in large numbers were absorbed into the circulation. The tubercle bacilli did not proliferate readily in the circulating blood, but might be conveyed by it, to a limited extent, even in ordinary cases of chronic phthisis, especially to such organs as the liver, kidneys, spleen, and cerebral meninges, in which the local circulation favored their lodgement. In general miliary tuberculosis, however, the bacilli entered the blood in large numbers, either through the lymphatics—especially the bronchial glands—or by unoccluded veins. All the varieties of acute phthisis mentioned by authors might be reduced to the two principal forms given, acute pneumonic phthisis and acute disseminated phthisis.

2. Chronic phthisis, likewise, had been described under a number of different forms; but these also might all be reduced to two, according to the tissues chiefly involved, namely, catarrhal and fibroid. These two varieties were not always distinctly separate, but might, and often did, exist together in various proportions. Catarrhal phthisis was that chronic form of the disease most commonly met with, and that which usually appeared first at the top of the lungs. The reasons given for its affecting the apices first were as follows: 1. These parts are the most liable to injury from exposure or strain from coughing or lifting, and, according to Green, injury to the vessels from imperfect circulation and stagnation of blood—conditions tending to produce frequent exudations favorable to the lodgement of bacilli. 2. There is less respiratory motion, with consequent imperfect ventilation and less tendency to the absorption of exudations and disturbance of bacilli. Beginning in the bronchioles, which become plugged with an inflammatory exudation, and usually limited to a circumscribed area, the disease extended down into the air-cells; resembling in this respect catarrhal or lobular pneumonia. It was in fact a tuberculous lobular pneumonia, and this was one of the names by which it was known.

The walls of the bronchioles became infiltrated with mucocytes and epithelioid cells, as in ordinary inflammation, and in severe cases fibrin and even blood are found. But, besides these, there were tubercles which characterized the disease, distinguishing tubercular inflammations from all others. Having given a description of the tubercle reduced to its ultimate elements, Dr. Page said that it was not, according to Williams, to be regarded as an adventitious growth, but simply a hyperplasia of normal tissue caused by tubercle bacilli which had been introduced from without—usually by means of inhalation—and found lodgement in a favorable soil. These tubercles are also primarily similar, if not identical, in all forms of the disease and in whatever locality found; differing chiefly in color and consistency according to their age and the changes they had undergone. So-called scrofula, it was now well known, was nothing more than tuberculosis of the lymphatics.

As the disease p ogressed there soon occurred caseous metamorphosis of the tubercles and other products mentioned, together with necrosis of the delicate tissues involved; resolution being impossible. Softening of these caseous materials led to the formation of cavities, partly by absorption, but chiefly by expulsion in coughing. The bacilli were found chiefly in the softened contents and on the walls of the cavities, but might also exist in all the affected tissues. In some cases the cavities became closed, owing to arrest of the disease, and a cicatrix was left. In others, becoming firmly enclosed by connective tissue, their contents cretefied. In the majority of cases, however, as was too well known, the disease progressed and the patient died. In speaking of the mode of extension in this form of phthisis he said that the vessels were usually occluded in the ulcerative process, so that it could not spread by absorption into the blood, except under the circumstances before mentioned. It had no predilection for the lymphatics, like fibroid phthisis; but it extended along the air-passages from one point to another, as well as by imperfectly expelled virus being sucked back, during inhalation, into parts as yet unaffected.

Intestinal ulcerations are also likely to be formed by the swallowing of virus, and they occurred in about one-half the number of cases, both of catarrhal and fibroid phthisis. Owing to the presence of gastric juice, ulceration of the stomach did not occur except in extreme cases of emaciation; the virus more readily finding a lodgement in the region of the ileo-cæcal value, the larger intestine, and sigmoid flexure. The mesenteric glands and peritoneum then became affected secondarily by absorption. Laryngeal phthisis, spoken of by some authors, was simply tuberculous laryngitis, which was probably always coincident with tuberculosis of the lungs.

The second form of the chronic disease, fibroid phthisis, according to Coats, also began in the bronchioles, but it extended, not by the air passages, but along the lymphatics to the peribronchial, interlobular, and sub pleural connective tissue. In very rare instances, extension in reverse order might occur from a tuberculous pleuritis. In other words, fibroid phthisis was a tuberculous interstitial pneumonia, and, like chronic interstitial pneumonia, it led to bronchiectasis and shrinkage. Very few bacilli, sometimes none at all, were to be found in the lung tissue; they chiefly existing in the sputa and on the walls of the bronchiectatic cavities. As to the relation between chronic interstitial pneumonia and fibroid phthisis, Dr. Page said that before the discovery of the Koch bacillus they were regarded as the same disease. After this, however, the two diseases were separated, and great care was taken to differentiate them; but during the recent Berlin Congress they were again considered to be the same disease—always a tubercular one. Even in cases of potter's lung, knife-grinder's consumption, and other forms of pneumono-koniosis the tubercle bacillus, according to Williams, was nearly always found.

In chronic phthisis of either form, the prognosis depended much on an early diagnosis. As to the earliest signs by which it could be recognized, if the top of the left lung were affected it was much easier to make an early diagnosis than if the trouble were on the right side, since in health there existed on the right side exaggerated fremitus and pectorophony, as well as slight dulness on percussion and rude respiration—four signs of incomplete consolidation met with in incipient phthisis, if occurring on the left side. In addition to these, therefore, some localized adventitious sound was necessary, and as chronic phthisis of either form usually began as a localized tuberculous capillary bronchitis, the first adventitious sound usually heard was the subcrepitant râle. Any localized adventitious sound in a suspicious case, would, however, aid in the diagnosis of phthisis. Frequency of the pulse and loss of appetite were among the earliest general symptoms. Of course, hæmoptysis, if it were not explained by the presence of heart disease or other cause, would be almost conclusive.

The question naturally arose, shall we rely only upon finding the bacillus? Of course, if the bacillus was found, it would be conclusive. But did we find it before the subcrepitant râle was heard, and were we to wait until it was found before we were justified in resorting to improved methods of treatment, involving perhaps the sending of the patient away from his business? The cough of chronic phthisis was at first dry and hacking. Expectoration was scant, and what sputum there was did not contain bacilli, except in very exceptional cases, because they were not yet liberated. Examination of the larynx had been claimed as the best method of arriving at an early diagnosis; but, as already stated, primary tuberculous laryngitis was rare, and by the time it was apparent the disease in the lungs had already been recognized.

In speaking of Koch's lymph, Dr. Page said, in conclusion, that time had not yet elapsed sufficient to determine the real value of this reported discovery. But even if all that could be claimed for it should be true, the importance of an early diagnosis and the prompt application of the remedy, was evident; for when loss of important tissue and disease of other organs had occurred, through ulceration and other processes, their still remained pressing considerations regarding treatment, even after the bacillus had been driven from the field.

Tuberculosis in Children; Primary Infection in the Bronchial Lymph Nodes.—Dr. W. P. Northrup read a paper on this subject. He said that the object of the paper was to illustrate and strengthen the theory put forth in the title. In the New York Foundling Asylum the records of one hundred and twenty-five post-mortems on cases of general tuberculosis, in which the details were sufficiently clear to classify them carefully for the purposes of the paper, furnished the following analysis:

1. Thirty four indeterminate cases, in which the lesions were so extensive, involving the organs of the thoracic and somatic cavities, bronchial lymph nodes, and mesenteric as well, that the point of primary infection could not be determined.

2. Twenty cases of bronchial node infection; cheesy masses in lungs; general tuberculosis.

3. Forty-two cases in which only cheesy masses were in the bronchial lymph nodes; general tuberculosis.

4. Thirteen cases in which the bronchial nodes were cheesy; the only other tubercles in the body being discrete miliary bodies in the lungs.

5. Thirteen cases in which all the tubercles of the body were in the bronchial lymph nodes.

The following case was given in illustration: A female, three years of age, sick six days—measles; diphtheria; croup; intubation; pneumonia; death. At the autopsy tubercles of the bronchial lymph nodes were found. A half dozen nodes about the roots of the lungs were enlarged, and exhibited gradations from cheesy masses to discrete tubercles. Bacilli were present in moderate number. The lungs presented the ordinary picture of extensive descending diphtheria and pneumonia. There were no tubercles in them.

This case was regarded as most illustrative. The duration of illness was so brief (six days), and the lesion was sufficiently advanced (certain nodes being quite transformed into cheesy material), to fairly allow the presumption that this well-nourished child was thriving very well until it succumbed to the overwhelming infection of measles and diphtheria.

6. A group of three cases standing out in the one hundred and twenty-five in which the primary infection was obviously in the mesenteric nodes. With this group a few miscellaneous cases were used in unclassified relation.

The cases of Dr. H P. Loomis and Ira Van Giesen were cited in confirmation of the theory. Dr. Northrup then proceeded to inquire if there were any physiological experiments which threw light upon this question, and by way of answer quoted some conclusions of Julius Arnold after dust inhalations in animals, showing how dust (ultramarine) was found in the bronchial lymph nodes (glands) three hours after inhalation; also in what parts of the air passages the dust was mostly found, and how disposed of after suspension of the inhalation for some time. The writer confessed to have found great satisfaction in the explanations afforded by these animal experiments. Dust particles were separately found embedded in the walls of the alveoli, in the lymph canals, and the afferent vessels, forming a continuous chain of evidence as to the course travelled by the particles. No dust was ever found in the vessels leading from the nodes; such filter nodes appearently having the power of collecting and retaining for a very long time the dust particles brought to them.

Experiments by Dobrolousky and Kassokowicz were quoted to show that bacilli can pass the mucous membranes and develop their brood in the lymph nodes without showing any trace of the point of their entrance.

A summary of the 125 cases of general tuberculosis at the New York Foundling Asylum was given as follows: Eighty-eight were of primary bronchial node infection; 3 were of mesentric node infection; 34 were indeterminate. Nine cases were added from Drs. Van Giesen and Loomis.

Dr. Northrup believed that in such cases the inoculation cure of Dr. Koch gave hope of its greatest achievement. This latent tuberculosis he thought might easily account for some of the accidental temperatures experienced in inoculations.

Dr. J. West Roosevelt said that Dr. Northrup's paper was particularly interesting as pointing out the methods of tubercular infection in children. As far as he himself had been able to judge, in adults quite as frequently as in children, the primary infection was in the bronchial lymph nodes. It seemed to him that it was high time that we should give up the idea of infection being caused by direct inhalation of tubercle bacilli. There was no evidence whatever which was capable of explaining the existence of tuberculosis in the lungs except as depending primarily on infection of the bronchial glands or other parts of the lymphatic system. Infection by *indirect* inhalation, as described by Dr. Northrup in his paper, appeared to him to be the most rational explanation of the disease in all cases of pulmonary tuberculosis.

The probable course of events was somewhat as follows: The bacilli, after being inhaled, were arrested by the lymph glands, which became tubercular. After a time cheesy masses from these glands passed through the thoracic duct, either from the right or the left side, and thence into the vena cava. They thus formed a lodgement in the lungs, preferably in the upper lobes, and generally near the pleural surfaces. In a paper which he had read before the Section a month previous, he had endeavored to show how impossible it was to satisfactorily explain the ordinary situation of early tubercular de-

posits in the lungs on the theory of direct inhalation. The lungs were practically a filter, in which we would particularly expect any materials introduced through the venous system to be gathered up. It was thus that they gathered up tubercle bacilli and also masses of pigment. In conclusion. Dr. Roosevelt spoke of gastro intestinal tubercular infection and of the danger that on this account arose from the ingestions of milk and other food containing bacilli.

Dr. William H. Thomson remarked that for a long time past it had seemed to him that on account of the frequency of early tuberculosis in the upper lobes of the lungs there must be some connection between them and the bronchial glands. He had, however, looked upon the matter merely from a theoretical point of view ; but it was now easy to understand the relation which those glands bore to infection of the apex of the lung. Signs of the very early implication of the bronchial glands, he said, were not infrequent in the phthisis of adults. One of his first cases of the kind was in a gentleman above forty years of age, who, with a slight cough and dulness at the right apex, was soon troubled with severe dyspeptic symptoms, and then with intractable vomiting. Great hyperæsthesia of the pharynx then supervened, and soon complete aphonia, which could not be accounted for by the appearance of the vocal cords, which were but slightly congested, and which were never ulcerated. Between the scapulæ, however, the bronchial breath sounds were much exaggerated, and Dr. Thomson pronounced his gastro-laryngeal symptoms as most likely due to enlarged bronchial glands pressing on the pneumogastrics, and that in time he would regain his voice by the softening of these indurated glandular masses. His voice perfectly and rather rapidly recovered twenty-two months afterward, and his gastric troubles simultaneously improved; but soon after this he developed a most agonizing sciatica in both legs, which proved to be due to the formation of a psoas abscess, to which he ultimately succumbed.

Since that time Dr. Thomson had met with several cases of similar vomiting before the formation of vomicæ in the lungs, occasionally accompanied with palpitation of the heart and laryngeal symptoms, both in private and in hospital practice, and he had accordingly insisted in his college lectures that the most effective means for controlling early vomiting in phthisis is repeated dry cupping between the scapulæ.

The Chairman said that as regards one of the points brought forward in Dr. Page's paper, the matter of tuberculous inflammation, it had seemed to him that altogether the simplest way of regarding it was to always think of it as inflammation attended with the presence and growth of tubercular bacilli, whatever other characteristics it might have. The form of the inflammation varied very greatly in different cases, but the tubercle bacillus was always a constant factor. This was seen even in the very smallest foci of tuberculous inflammation, such as the so-called miliary tuberculosis, where with the very simplest elements we always had the tubercle bacillus.

The paper of Dr. Northrnp, he thought, was one of those fortunate productions brought forward at a time when it would be generally regarded as convincing, because the general tendency of thought had been in the direction indicated, and everybody was willing to be convinced. He thought that of late years all our tubercular studies had been tending in this direction. Whether the bacilli were inhaled or swallowed, they were unquestionably liable to make their way, first to the lymphatic glands, and this was therefore the primary infection. Hence Dr. Northrup's argument was all the more convincing because one's mind was already prepared to accept it.

The Price of Quinine has been further reduced, it is said, to twenty-five and thirty cents per ounce.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Stated Meeting, December 22, 1890.

Orlando B. Douglas, M.D., President, in the Chair.

The President introduced Dr. Walter B. Chase, President of the Medical Society of the County of Kings, who made some remarks expressive of the harmony and good feeling existing between the members of the two largest medical societies in the State.

The Different Physiological and Therapeutical Properties of the Induced Currents of Electricity, with Especial Reference to Bi-polar Faradization.—Dr. A. D. Rockwell read the paper.

Dr. A. H. Goelet said that, not having heard the entire reading of Dr. Rockwell's paper, he might be guilty of some repetitions. He wished, however, to clear up some points obscure in the minds of the profession regarding the value of the faradic current, and how best to use it. The ordinary conception of faradic machines seemed to be that all were alike, and that it was only necessary that they should make a buzzing noise and shake the patient up thoroughly. This shaking up was usually carried to the point of individual tolerance. It was a wonder that a second application was ever allowed. Such a slip-shod method was to be attributed to scepticism as to any real effect to be obtained from its use. It was also due partly to the fact that we had come to accept a machine constructed by a mechanic without regard to its effects.

Tripier had insisted that there should be two coils, the one of fine wire and long, used for intensity; the other, of coarse wire and short, for quantity. The current from the long fine wire produced sedation by nerve stimulation, and that from the short coarse wire stimulated muscular contraction. They both caused muscular contraction, but the effect in another direction was different. A great deal depended not only upon the length of the coil and the size of the wire, but also upon the rapidity or slowness of the interruptions. To obtain the most sedative effect the interruptions must reach the maximum of rapidity. When it was desired to produce a marked stimulation or contraction of a muscle, a slow vibrator was used.

The current from the long fine wire possessed great stimulating power by reason of its intensity, and when rapidly interrupted it had a decidedly soothing and quieting effect. This was because it produced a tetanoid contraction of the muscles and paralysis of the sensory nerves. The muscles being unable to respond to the rapid interruptions, the contraction became constant or tetanoid. It also produced a marked effect upon the capillary circulation, stimulating contraction and relieving blood stasis. Its effect was always soothing when it was properly applied, even in acute congestions and inflammations.

It was very important that the electro-motor force of the cell, or the current which circulated in the primary coil, should be in such proportion to the vibrator as to make the interruptions smooth and even. For a pronounced sedative effect the secondary coil must be constructed of the finest wire made (No. 40), and its length must be at least 1,700 or 1,800 yards. This coil must be so arranged as to slide easily over the primary ; when the current was started it should be removed from the primary, so that nothing should be felt at first. The increase must be very gradual. But the best effect of the secondary current was obtained only when the secondary coil completely covered the primary, for not until then did the whole coil receive the full amount of induction. This point could not be gained without too great shock with the ordinary battery. He had overcome this difficulty, with the assistance of Dr. Waite, by arranging a rheostat in the primary circuit, so that one or more cells might be tempered to any degree desired. Besides this

advantage, there was another of equal importance obtained by the use of the rheostat at this point. By means of the regulating power afforded by the rheostat, the current could be so controlled that the secondary coil could be slid up over the primary as soon as the vibrator was started, which should be done with the least possible current at first. Then the current could be increased by lessening the resistance in the rheostat. All the while the whole of the secondary coil was receiving the full induction. In other words, both primary and secondary currents were controlled by the rheostat in the primary circuit.

When sedation was desired, the applications must be of long duration, and must start with no sensation to the patient, and never with a jerk. The increase must be so gradual as to be scarcely perceptible, and never to a point to cause discomfort.

He had laid stress upon the sedative effect of the faradic current because it was the most valuable. He did not think the claim for the bi-polar method of its administration had been in the least exaggerated. Its usefulness was not limited to neuralgic affections. It was also effective in allaying the pain arising from congestion, and in relieving engorgement of the pelvic tissues.

Dr. Vineberg referred to his recent observations of the induction current as employed in Paris. Too much importance could not be given the sedative effect of the long fine wire. This was illustrated in the case of a patient at the Mt. Sinai Hospital. She had oophoritis and pain in the pelvis. He applied the finest wire which they had in the hospital, the ordinary form, three coils. It produced no effect. He had the manufacturer place the same apparatus in his office, but with the coil made according to the Tripier system, a wire 1,200 metres long. One application with this current gave the patient relief from the pain for three days.

Apostoli's Cleanliness.—He had been surprised at the pains taken by Apostoli to procure perfect antisepsis in the treatment of diseases of women, and also at the care and time consumed in making a diagnosis, and in treatment of individual cases. His apparatus was simple. Most of his applications were intra-uterine. A false notion seemed to prevail regarding the great strength of current usually employed by him. As a matter of fact, he seldom used more than 150 to 180 milliampères. He had seen no ill results.

Remarks were then made on the treatment of lupus and tuberculosis with the Koch lymph, by Drs. J. H. Linsley, F. M. Warner, Simon Baruch, A. H. Smith, and H. H. Curtis.

Dr. George T. Jackson was elected delegate to the State Medical Society.

The Milk of the Egyptian Buffalo.—According to the researches of Messrs. Pappel and Richmond, of the Khedival Laboratory, Cairo, the milk of the Egyptian buffalo, or gamoose, *Bos bubalus*, presents several characteristics distinguishing it from that of the cow, which may well be remembered by medical men who have to treat patients, especially infants, in Egypt or in other countries where this animal is common. The amount of fat was found to be a good deal larger than in cow's milk, the percentage in the specimens examined varying from 5.15 to 7.35. The sugar, which appeared to be a hitherto undescribed variety, differing from milk sugar, was also found to be of larger amount than that in cow's milk, the average percentage being 5.41. It is suggested that this sugar should be called *tewfikose*. The fat, too, was found to differ from that of cow's milk, containing minute quantities of sulphur and phosphorus, and yielding four times as much caproic acid as butyric acid, whereas in cow's milk the quantity of caproic acid is only double that of butyric acid. The milk was also found to contain a small quantity of citric acid.—*The Lancet*, August 23, 1890.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

DR. KOCH'S LATEST ANNOUNCEMENT—DISCUSSION AT THE HARVEIAN SOCIETY ON KOCH'S METHOD OF TREATMENT—NEPHROLITHOTOMY FOR TOTAL SUPPRESSION OF URINE—THE REGISTRATION OF TRAINED NURSES.

London, January 17, 1891.

The event of the week has been the announcement by Dr. Koch of the actual nature of the fluid used by him in his inoculations for tuberculosis. I scarcely think that any one here is surprised to find that the remedy is prepared from the tubercle bacilli and contains some of their products. Those who have followed Pasteur's researches on the attenuation of virus were prepared to learn that Koch's researches had proceeded on similar lines. The knowledge of the real nature of the remedy will not, I think, alter very materially the present attitude of British physicians and surgeons toward it. This attitude may be described as being one of expectancy and patient experimental enquiry. The first boom of enthusiasm has largely subsided, and those who are using the remedy are now satisfied to wait and observe its action more fully before expressing themselves too decidedly. Those who from the first discountenanced the new treatment can, of course, now point to the morbid source of the remedy as emphasizing all they have said against its use. By the disclosure now made, however, one vantage ground is taken away from the opponents of the new treatment, who can no longer keep on repeating that Dr. Koch and his disciples are using a secret remedy. There is no use in denying that the continued maintenance by Dr. Koch of absolute silence on this point had begun to awaken unfavorable comments—even among laymen. Thus, in the December number of *The Review of Reviews*, the editor of that popular organ trenchantly states: "All dealers in secret remedies are quacks. But Dr. Koch, as far as the retention of the secret of his remedy goes, is as much a quack as Sequard or Count Mattei." The editor goes on to suggest that recent events will probably increase the use of secret remedies by the profession (*e.g.*, Count Mattei's) with a view of ascertaining their real value.

At last week's meeting of the Harveian Society a discussion took place on the subject of Dr. Koch's treatment. Dr. J. Edward Squire read a paper reviewing the present state of our knowledge of the method and giving the results of his own use of it. Dr. Squire thought that the success of Koch's researches in the laboratory justified the use of the fluid in cases of human tuberculosis. Instead of beginning with the largest dose that could safely be borne, equally good results might probably be obtained by using a minimum dose at first and increasing it gradually. In two of his lung cases the large dose of one centigramme was first used; in these a severe reaction occurred. After repeated smaller doses the patients now bore the large dose without any trouble. The same results were obtained by gradually increasing the dose. In most cases the "reaction" was marked by a rise of temperature, but in a few cases the temperature fell to below normal for a time. The pulse became full and soft, and arterial tension was diminished. Various rashes and slight jaundice had been observed, and in one of his cases double vision occurred. As bearing out the theory that only tubercular material was attacked by the remedy, Dr. Squire mentioned two cases where the inflamed area produced by blisters showed no change after injection, while a patch of lupus close by became red and swollen. Fresh air, good food, and cod-liver oil were important aids to the treatment which should not be neglected.

In the ensuing discussion Mr. Noble Smith said he

thought he had witnessed a marked improvement after injections in cases of tubercular disease of the hip and elbow. Dr. Waterhouse related the case of a lady with advanced phthisis whose life had, he thought, been undoubtedly prolonged by Koch's treatment. The temperature decreased, there were no night sweats or diarrhœa, and the bacilli disappeared from the sputa, though much lung tissue was still coughed up; a herpetic eruption appeared on one trochanter.

Mr. Edmund Owen said his mind was still open—wide open—on the subject of Koch's remedy. He thought that the children with tubercular joints who had been injected at the Children's Hospital had not improved more than might have reasonably been anticipated from treatment in hospital upon the old lines—that was, with rest in bed and fixation of the limb. There was one child with tubercular ophthalmia, tubercular dermatitis of the lip, and tubercular disease of the knee. The eye got worse under the injections, the lip got better, and the knee swelled a little, but subsequently appeared unaltered. One patient had been shown as a case of "Koch eruption," and as such was regarded with considerable interest; in due course several other children in the ward broke out in unmistakable measles, thus revealing clearly the nature of the eruption in the first case. Mr. Mortimer thought that if the treatment was to be of service, acute and not chronic cases should be selected.

At the meeting of the Medical and Chirurgical Society, on January 13th, Mr. Clement Lucas read a paper on a case of nephrolithotomy (following nephrectomy performed on the opposite kidney) for total suppression of urine which had lasted five days. Complete recovery had ensued, but, although the operation had been performed five years ago, Mr. Lucas had delayed publishing details of the case, because those to whom he mentioned it, while applauding the attempt to save a life on the extreme verge of dissolution, threw the coldest doubt upon the patient's future. They maintained that even if she recovered from the immediate effects, her life must be a short and painful one—that the one remaining kidney, having been opened and drained, would rapidly degenerate, or another stone would quickly form and bring about a fatal termination of the case. The patient, however, was still living, and in the best of health (she was shown at the meeting), and enjoyed freedom from pain, discomfort, and hæmaturia; these had been almost constantly present for seventeen years before the right kidney had been removed. The operation for total suppression of urine was one that the author had long considered justifiable, and he had on more than one occasion publicly advocated its performance. The operation of nephrolithotomy was performed on the fifth day of anuria, when the patient had become drowsy, weak, and indifferent to what was going on around her. Her temperature was 99° F. A conical stone, rather more than three-fourths of an inch in length and from three-eighths to five-eighths of an inch in diameter, was discovered acting as a ball-valve to the top of the ureter. Urine began to drop out of the wound as soon as the pelvis of the kidney was opened. For twelve days all urine was passed by the wound in the loin. Then an ounce and a half was passed with great pain from the bladder; the quantity gradually increased, and after the nineteenth day all the urine was passed naturally. The wound remained aseptic, and healing was complete in ten weeks.

For some time past the desirability of having some system of registration for trained nurses has been discussed. What promises to be the thin edge of the wedge has just been introduced by the publication (by the British Nurses' Association) of the First Annual Register of Trained Nurses. Of course this register has no legal authority, and can in no way be compared with the Medical Register. It may, notwithstanding, prove to be the precursor of some authorized system of registration, and thus put a check on the recognition of incompetent and inadequately trained nurses.

SOME REMARKS ON THE EARLY TREATMENT OF OTITIS.

To the Editor of the Medical Record.

Sir: The medical man who sees a case of otitis media which has suddenly developed during the progress of catarrhal inflammation of the air tract of the head, whether consequent on scarlet fever, cold in the head, or other affection, assumes a serious responsibility unless well informed in its management, since under certain conditions a seemingly mild case may speedily become most painful and grave. I have recently been reminded of the perplexity, not to say apprehension, felt by the conscientious practitioner when untoward symptoms develop, several distressing cases coming under my observation in consultation with other physicians. The urgency of the cases seen was no doubt due to the severe winter weather of late prevailing. I hope I may be permitted to offer some practical suggestions drawn from such experience, since they may be of interest to others when in doubt as to the best course to pursue.

It would be out of place here to go far into the pathogenesis of otitis, but we may assume that acute middle-ear affections are, generally speaking, divisible into two principal groups; namely mild and severe. The mild ones are usually preceded by more or less earache, which almost wholly disappears on the occurrence of a discharge from the ear. The pain is due to inflammation of the mucous-periosteal lining of the drum (inflammation limited, indeed, for the most part to the atrium of the drum) and the confinement of secretions, which may be either moderate or profuse in quantity. Beyond cleansing the organ by means of cotton-wool pellets and very gentle syringing while discharge lasts, these cases had best be let alone for the most part, inasmuch as they have a tendency to spontaneous recovery. Though these cases often get well despite misguided treatment one should never be lulled into unguarded security, whereby valuable time may be frittered away in useless treatment when severer symptoms may be impending. In a severe case it would seem almost impossible to be mistaken in diagnosis if the ear were properly examined even before the more urgent symptoms fully develop. The pains and headache are soon unremitting, unendurable, more agonizing, perhaps, than the pains of almost any other disease, and they demand instant relief, if attainable.

Much blame, we fear, for children's dreadful sufferings specially, not to mention the imminent danger to life, frequently lies at the door of writers who fail to differentiate between mild and severe cases, and who too often recommend for both of them such treatment as may, for the most part, be found among the rubbish of ancient writings called medical; methods meddlesome and often brutal when zealously employed; liable, indeed, to be followed by sad results, now and in the future. Waste no time, therefore, in temporizing measures, since the relief to be had should be quickly sought. So soon as the pains are great, no relief following the discharge, if any occurs, and the upper edge of the drum-head becomes red and bulging, it may be suspected that the gravity of the symptoms is mostly due to the confinement of secretions in the bony chamber comprising the loft above the main cavity of the drum—the attic of the drum in fact—a space lying almost entirely above that part of the drum which is seen on looking into the ear to be covered by the drumhead. The swelling of the lining membrane of this unyielding bony cavity closes the natural outlet for secretions, which can now only escape from the attic by dissecting their way slowly underneath the membrana flaccida and finally appearing as a tumefaction there or further along the bony portion of the external auditory canal. Finally, the mastoid process or general outer surface of the temporal bone may be invaded with formation of abscess of varying proportions.

The onset of this unfavorable process must be recognized at once if we would prevent extensive trouble;

puncturing the drumhead low down, blistering, leeching, poulticing, etc., will do no good; indeed, quite the contrary, since they may distress the patient and increase the local irritation. As the invasion of the trouble is rapid, so the remedy should be sure and swift; no stabbing the drumhead in the dark or fruitless incisions into the canal. Let a careful examination of the parts (patient narcotized if unable to remain quiet—which in children cannot be expected) with the electric lantern worn upon the forehead be made. Fortunately we may now, if timely, relieve the symptoms at the start, by thus liberating the fluids in the attic and establishing drainage, an operation based upon the principle inaugurated in the treatment of these parts by Wilde, who waited, however, until much damage had been done before seeking to give relief by letting out matter presenting at the mastoid process.

Do not, therefore, wait for days while more and more damage is being done, when the extension of inflammation from the seat of disease may be prevented by a fine incision through the membrana flaccida, a proceeding speedily followed by relief in most cases, and in many by a speedy cure. To make the incision a small, sharp-pointed bistoury, the shank of which is set at a convenient angle to its handle, should be employed. The point of the instrument is then to be advanced through the membrana flaccida well up into the attic, and as it is withdrawn a free incision made through any bulging or swollen tissues of the canal in proximity to the membrane.

Any one who has witnessed the immediate relief following the liberation of confined secretions, specially from underneath deep fascia or the periosteum can appreciate the importance of this operation. Of the subsequent treatment but little need be said; it will depend largely upon the injury already inflicted upon the ear; if done early, usually no further special treatment will be required.

Hoping the above may draw the attention of the practitioner to this important procedure when treating these cases, I am Yours,

SAMUEL SEXTON, M.D.

12 WEST THIRTY-FIFTH STREET, NEW YORK.

New Instruments.

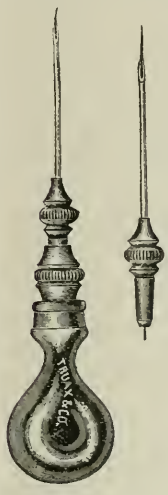
AN IMPROVED INSTRUMENT FOR ADMINISTERING HYPODERMIC INJECTIONS.

BY JOHN J. THOMAS, M.D.,

YOUNGSTOWN, O.

THE subcutaneous method of administration of remedial agents is one that was never so widely or so generally resorted to as at the present time. The last decade has witnessed a decided enlargement of its applications. The syringe is resorted to much more frequently than formerly, and the drug manufacturers vie with one another in the completeness of their stock of remedies specially prepared for hypodermic use. The instrument manufacturers, also, exhibit a variety of syringes, each one guaranteed the most reliable and the least liable to be found out of order when its use is called for, but each one constructed upon the same general principle, equally complicated, and very nearly equally unreliable. What practitioner of medicine has not, time and again, found his hypodermic syringe out of order, the glass barrel broken, or the plunger dry, and the whole apparatus unfit for immediate use, and at a time when its use was most urgently demanded. Is it too much to say that untold and prolonged suffering can be laid to the imperfection of the ordinary hypodermic syringe? It is not too much to declare that lives have been lost from the inability on the part of the physician promptly to deliver an injection of ammonia, whiskey, nitro-glycerine, or ergot. The fault is with the principle of the construction of the ordinary syringe. The cylinder and piston principle should be laid aside and substituted by something simpler and less complicated.

Nearly two years ago I made an apparatus for giving hypodermic injections by tying the open end of an ordinary medicine-dropper bulb over the screw end of a hypodermic needle, using care to make the connection perfectly air-tight. Flattening the bulb and inserting the needle into some water, I found that the former filled with the fluid in about twenty-five or thirty seconds, varying with the strength and firmness of the bulb and the calibre of the needle. The capacity of the average bulb was found to be twenty-eight or thirty minims, about the same as that of the barrel of an ordinary syringe. Redischarging by pressure, making the solution from the tablet and refilling the bulb took but a little time, and I soon began this simple means of delivering injections, and found the method to be as satisfactory as could be desired. The first filling of the bulb was merely to measure its capacity and to insure that the second filling be perfect and without the admixture of air. Firm and equable pressure by the thumb and fingers upon the bulb would insure the delivery of every drop of the solution, the needle being withdrawn before allowing the bulb to expand. At first I was accustomed to keeping the needle and bulb separate, attaching them before the occasion requiring their use. This was found unnecessary, as the bulb and needle could be easily dried by collapsing and expanding the former a few times over a lamp or near the fire. It was found that this little instrument was always in good order and could easily be kept clean. I discovered no appreciable tardiness in effect when so large an amount of solution as twenty-eight minims was injected. I made five or six of these syringes at practically no expense save the slight cost of the bulbs, utilizing some old needles. I placed one or two in my buggy-case and surgical and obstetrical bags, and found myself in the ready possession of a reliable means of giving an injection upon any and every occasion. For upward of two years I have used none but the little instrument in question, and with ever increasing satisfaction.



In the *Medical and Surgical Reporter* of September 28, 1889, I described the contrivance, inviting the instrument makers to adopt the principle in the manufacture of a perfected syringe. After using the instrument for a year longer I wrote for the same journal a second article upon the subject, appearing in the issue of October 25th. The second article in particular attracted considerable attention, and a well-known firm of instrument makers of New York City, and another of Chicago were readily induced to manufacture the syringe. The syringe used by Koch in the injection of the lymph for the cure of tuberculosis appears to be constructed upon the same general principle.

Having recently seen a woodcut of the latter, I should judge it to be unnecessarily complicated for all ordinary purposes. The great merit of the bulb syringe made by Messrs. Charles Truax & Co., of Chicago—a woodcut of which accompanies this article—lies in the extreme simplicity of its construction. The bulbs are of two sizes, the larger being intended chiefly for the injection of medicaments necessarily bulky, such as the diffusible stimulants, and the smaller for solutions of the alkaloids.

Men of the highest standing in the profession assure me that the bulb syringe will eventually supersede the instrument now in common use, if only for the fact that the use of the former affords a means of delivering an injection in a perfectly *aseptic manner*. The chance of the

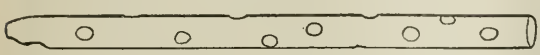
occurrence of abscess is minimized, the bulbs can so easily be made and kept surgically clean. Aside from its claims to being fully in line with the demands of the times in the direction of asepticism, the bulb syringe embodies a great improvement in the direction of simplicity, durability, and efficiency.

QUILL DRAINAGE-TUBES.[1]

By OTIS K. NEWELL, M.D.,

SURGEON TO OUT-PATIENT DEPARTMENT, MASSACHUSETTS GENERAL HOSPITAL, BOSTON.

Dr. Beach has used for the past two years, at his clinic, drainage-tubes made from large-sized imported goose-



quills, such as are used for making the finer grades of camel's-hair brushes. The quills are taken without cutting off the dermal end, and perforated at intervals with an ordinary round leather punch. As shown in the figure, a delicate and smooth probe-pointed tube is thus provided, presenting the maximum lumen and minimum thickness of wall. This tube is made from a natural dermal appendage and is absolutely unirritating. It can be readily cut with scissors, and is not fragile like glass. It does not form any of the irritating chemical changes such as are frequently seen where rubber tubes have remained for any length of time. These tubes are preserved in corrosive sublimate or carbolic-acid solutions, and are easily sterilized.

[1] Reported from the clinic of Dr. H. H. A. Beach, at the Massachusetts General Hospital, Boston.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from January 25, 1891, to January 31, 1891.

Patzki, Julius H., Major and Surgeon. By direction of the Secretary of War, granted leave of absence for six months, with permission to go beyond sea. S. O. 24, par. 5, A. G. O. Washington, D. C., January 29, 1891.

Stephenson, William, Captain and Assistant Surgeon. By direction of the Secretary of War, will proceed without delay from Columbus Barracks, O., to Fort Wayne, Mich., and report in person to the commanding officer of that post for temporary duty, and upon completion thereof will return to his proper station. S. O. 23, par. 13, A. G. O., Washington, D. C., January 28, 1891.

Gibson, Robert J., Captain and Assistant Surgeon. By direction of the Secretary of War, relieved from further temporary duty in the field, to take effect so soon as his services can be spared by the officer commanding the tooops with which he is serving, and will then return to New Haven, Conn., and resume his leave of absence. S. O. 22, par. 6, A. G. O., Washington, D. C., January 27, 1891.

Gandy, Charles M., Captain and Assistant Surgeon. By direction of the Secretary of War, relieved from temporary duty in the field, to take effect when his services can be spared by the commanding officer of the troops with which he is serving, and will then return to Ocean View, Cape May County, N. J., and resume his leave of absence. S. O. 21, par. 1, A. G. O., Washington, D. C., January 26, 1891.

Owen, William O., Jr., Captain and Assistant Surgeon. By direction of the Secretary of War, relieved from temporary duty with troops in the field to take effect as soon as his services can be spared, and will then return to Muskogee, Indian Ter., and resume his leave of absence. S. O. 20, par. 3, A. G. O., Washington, D. C., January 24, 1891.

Cowdrey, Stevens G., Major and Surgeon. By direction of the Secretary of War, the extension of the leave of absence granted in Special Orders No. 302, December 27, 1890, from this office is still further extended two months on surgeon's certificate of disability. S. O. 19, par. 13, A. G. O., Washington, D. C., January 23, 1891.

Reed, Walter, Captain and Assistant Surgeon. By direction of the Secretary of War, relieved from temporary duty at Fort Keogh, Mont., to take effect as soon as his services can be spared by the commanding officer of that post, and will then return to Baltimore, Md., and resume his duties in that city as Attending Surgeon and Examiner of recruits. S. O. 20, par. 3, A. G. O., Washington, D. C., January 24, 1891.

Gardner, William H., Major and Surgeon. By direction of the Secretary of War, relieved from further duty in the field, and will return to his proper station. S. O. 19, par. 2, A. G. O., Washington, D. C., January 23, 1891.

Official List of Changes in the Medical Corps of the United States Navy for the week ending January 31, 1891.

Crandall, R. P., Assistant Surgeon. Ordered to examination preliminary to promotion.

Berryhill, T. A., Passed Assistant Surgeon. Detached from the McArthur, and wait orders to the Marion.

Jones, W. H., Surgeon. Detached from the Swatara, proceed home, and granted six weeks' leave.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending January 31, 1891.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	13	3
Scarlet fever	174	23
Cerebro-spinal meningitis	3	3
Measles	433	32
Diphtheria	107	28
Small-pox	0	0
Varicella	29	0
Pertussis	0	11
Croup	0	0

Micro-Organisms in Great Cities.—Professor Tarnier in his course of lectures on obstetrics, in 1890, referred to M. Miquel's researches on the relative abundance of micro-organisms in different places (*The British Medical Journal*). One to the cubic metre of air is the proportion at the top of a high mountain. In the Parc de Montsouris, in the south of Paris, M. Miquel found 400 micro-organisms to the cubic metre of air, while in the Rue de Rivoli the proportion was 3,480. In a new room in the Rue Censier he found 4,500 to the cubic metre; more, that is to say, than in the centre of Paris in the open air. In a room in the Rue Monge, he counted 36,000, in the Hôtel Dieu 40,000, and in the Pitié, an older hospital, 319,000 micro-organisms to the cubic metre. At the Observatory, Montsouris, 650,000 microbes were found in a gramme (15 grains) of dust; in the room in the Rue

Monge the amount was 2,100,000. In the hospitals the proportion was so high that counting the number of microbes in a whole gramme of dust was found to be impossible. The dust is the great conveyer of micro-organisms. At 2 A.M., when a city is most quiet, the fewest germs are to be found in the air, at 8 A.M. the industry of domestic servants and dustmen has already made the air teem with germs. At 2 P.M. the proportion has again greatly fallen; at 7 P.M. it is once more high, for many houses are being "tidied up;" besides sundry kitchen operations are unhygienic. Thus the "small hours," unfavorable in many respects to patients hovering between life and death, are the least septic of the twenty-four. The day proportions indicate that household duties cause more septic diffusion than is excited by traffic and industry.

Doctors and Advertising.—Bitter complaint, says the *London Daily News*, is heard from the medical profession regarding the severity of the unwritten law of professional etiquette. It is not that medical men are forbidden to advertise themselves; it is that they are constantly under suspicion of advertising themselves when they are really doing nothing of the sort. Lecturing is just now the bone of contention. If a medical man has the gift of public speaking "on every conceivable topic," as somebody has sneeringly put it, why cannot he be allowed to instruct and entertain his fellow-creatures from a public platform? And if the committee of the local literary and scientific institute will print the name of "Dr. Abernethy Astley Cooper Jones" in big type, with a whole row of initials after it, is it fair to make him responsible for that? A medical correspondent of *The Lancet*, who from obvious motives suppresses his name, confesses to finding "intense pleasure and relaxation in addressing an intelligent audience," but he had to endure "the darts of slander." A friend of his, a medical man of similar ability and most excellent literary attainments, loved and respected by all who come in contact with him, has the fortune, or misfortune, to be one of our best public speakers. He can make ten guineas by one evening address, and earn as much in an hour and a half as his detractors can do in a week, but, owing to the "intolerable priggish attitude" of his fellow-practitioners, he is obliged even to cease his gratuitous efforts on behalf of the churches, chapels, and local charities.

All about Bacteria.—Just now, when so much interest has been aroused anew in the subjects connected with bacteriology, and a widespread desire is evinced among medical men to know more about micro-organisms, in all their relations, one is greatly impressed by the scarcity of good books on this subject in English. Notwithstanding the vast amount of literature treating of almost every other medical subject, from the most varied stand-points, yet there is on bacteriology alone, now, not a single text-book published in this country that represents, in at all satisfactory way, the present aspects of our knowledge.

There are numerous works in German, French, Italian, etc., and one or two translations from the German have been published in England, but none in America. As so many, not familiar with the subject, are looking for such a book, a word or two about one of the newer works may not be amiss.

One of the best and most readable books in German, is Fraenkel's "Grundriss der Bacterienkunde," the third edition of which was published last year. It is arranged in the form of a course of lectures as delivered in the University of Berlin, and has the great advantage over many other works that it treats in not too great detail, bacteriological technology, including morphology and biology of bacteria, methods of investigation, staining, culture, etc., and also the most important pathogenic and non-pathogenic micro-organisms, the present state of our knowledge including methods of culture, differentiations, stains, etc. The book commends itself not only because of the high standing of the author as a bacteriologist, but also because of his clear, satisfactory, and not too technical manner of treatment of his subject. We are informed that a translation of this book, by a competent bacteriologist, is soon to be published in this city, and we would warmly commend it as one that will furnish such information as both the practitioner and the practical worker in bacteriology desire.

Is Removal of the Tonsils Dangerous?—Removal of the tonsils by the bistoury or guillotine is a popular operation in this country. The French are less partial to it, and MM. Quenu and Lucas Championnière have recently dwelt on its dangers at the Paris Société de Chirurgie. The latter surgeon referred to two cases in Broca's practice where profuse hemorrhage followed removal of the tonsils. In one of these instances the patient, a medical student, died almost immediately after one tonsil was cut, so violent and uncontrollable was the bleeding. In a case in M. Lucas-Championnière's own experience, the patient, a middle-aged man, had enlarged tonsils, quite free from inflammation, and he was not subject to any morbid condition liable to prevent the natural arrest of hemorrhage. On removal of one tonsil hemorrhage took place, and could not be checked until after two hours of digital pressure with a tampon soaked in ergotin. M. Quenu always uses the galvano-cautery three or four times, at intervals of a fortnight, and atrophy of the tonsil always follows. MM. Marc Sée and Chauvel do not dread the knife. There can be no doubt that hypertrophy of the tonsils requires active treatment, especially in youth; the evil consequences of neglect are well known. In the majority of cases the risk of dangerous hemorrhage is very slight; but the possibility of its occurrence should always be borne in mind, and the use of ice or of a styptic gargle should be enforced as a measure of precaution immediately after the operation. —*British Medical Journal.*

"Where Much is Given, Much is Required."—Dr. Andrew H. Smith writes: "May it not be that success in the Koch treatment depends upon a certain relation between the amount of the dose and the amount of tuberculous tissue present in the system? In lupus, for example, the lesion being only skin-deep, and the affected surface usually not large, the quantity of tuberculous tissue is insignificant when compared to the masses of such tissue found in advanced pulmonary tuberculosis. Hence a milligramme of the fluid, for example, expending its whole energy upon this small quantity, produces a decided impression upon it, and after a few repetitions, effects its entire removal. The same quantity of fluid, on the other hand, would have no sensible effect upon the massive deposit of confirmed phthisis, and if the dose were increased in proportion to the work to be done, the reaction would be fatal to the patient. A small amount of coal requires but a small amount of oxygen for its consumption, and produces but a small fire. A large amount of coal requires a large amount of oxygen, and makes a large fire. Unfortunately, we cannot take portions of the pulmonary tuberculous tissue and act upon them in detail. The coal must all be ignited at once, and with oxygen enough to insure combustion the result would assume the proportions of a conflagration. Herein, I think, will be found the necessary limitation of the usefulness of the Koch treatment in pulmonary disease. If we can get our cases when the amount of tissue is not more than in lupus or in joint tuberculosis, we shall probably have as good results as are obtained in these affections. But when the tuberculous tissue is to be measured by cubic inches, or tens of cubic inches, no quantity of lymph which the system will bear will produce any sensible effect upon it."

When the Stomach rebels against cod-liver oil it is recommended by some practitioners to make use of inunctions instead. The chest and abdomen are the sites usually chosen, and notwithstanding the objections to the "greasiness" of the method the results are quite satisfactory.

Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 39, No. 7.
Whole No. 1058.

NEW YORK, FEBRUARY 14, 1891.

$5.00 Per Annum.
Single Copies, 10c.

Original Articles.

PERINEORRHAPHY: A PLEA FOR IMMEDIATE REPAIR.

WITH THE DESCRIPTION OF A NEW METHOD OF SUTURING.

BY CLEMENT CLEVELAND, M.D.,

SURGEON TO THE WOMAN'S HOSPITAL IN THE STATE OF NEW YORK.

IT is not from a want of literature on this subject that I am led to make choice of it for a paper to be read before the Practitioners' Society, but because of a belief that appears to exist in the minds of many practitioners, to the effect that rupture of the perineum is of little importance, unless it has extended through the sphincter ani.

An experience, which has extended over many years, in observing the results of the lesion at the Woman's Hospital, has led me to form very positive convictions in favor of immediate repair of the injury; and the hope that I may be able to convince others of the soundness of this view has been the inspiration of this paper.

A thorough knowledge of the anatomy and physiology of the structures which form the floor of the pelvis is necessary to enable us to understand the full importance of this lesion. At the risk, therefore, of being a little tedious, I will briefly review the more important points, that I may be the better able to defend the position in which I find myself, that of maintaining that no primary rupture into the body of the perineum is insignificant or unimportant. I wish to be understood in this statement to refer only to the primary tear. The consideration of the lesion after cicatrization has taken place is another matter, and depends upon an entirely different set of circumstances and pathological conditions.

By floor of the pelvis is meant that portion of the body lying between the pubic bones and the sacro-sciatic ligaments and coccyx, and is composed mainly of muscles, connective tissue, and fasciæ. The muscles are the superficial and the deep. The superficial are the bulbocavernosus, erector clitoridis, transversus perinei, sphincter ani, levator ani, and coccygeus. The deep are the deep transversus perinei, constrictor vaginæ, and depressor urethræ.

The fasciæ are the superficial and deep perineal. The levatores ani, transversi perinei, and perineal fasciæ are the structures chiefly concerned in the support of the pelvic viscera, and whose functions are disturbed by the rupture of the perineum.

In pregnancy the vagina is enlarged by a process similar to that going on in the uterus, a physiological hypertrophy of all its tissues. There is a marked increase in its circulation and that of all underlying structures. The muscles and fasciæ of the pelvis are softened by the increased supply of blood and serum. The development of the organ keeps pace with the enlargement of the uterus. At the time of labor it has become softened and distensible. Its muscular contractility, also, seems to have increased. After labor the retrograde metamorphosis, or involution, reduces the vagina to its normal dimensions. This process is supposed to be a fatty degeneration of the hypertrophied tissue. The operation is sometimes arrested in its progress, leaving the vagina in a state of so-called subinvolution. It does not come within the scope of this paper to discuss at length the etiology of this condition of subinvolution. It is sufficient for our purpose to describe the lacerations of the perineum and associated muscles and fasciæ, as they form the most important factors in its causation and furnish the indications for the operative procedure.

For convenience the various injuries may be divided as follows. The list does not include tears of the fourchette, which are merely ruptures of the mucous membrane and a natural result of labor, and may be dismissed as unimportant:

1. Lacerations into the body of the perineum, including all, from those slight in amount to those extending to the sphincter ani, without appreciable injury to the levators. 2. Rupture of the perineum with radiating tears into the sulci. 3. Rupture of the perineum through the sphincter ani without injury to the levators. 4. Rupture through the sphincter with lacerations of the levators. 5. Includes those cases where there is greater or less relaxation of perineum and vagina from subinvolution, due to overstretching and hidden minute tears in the muscular fibres, with no visible laceration of perineum or vagina. A very large number of cases are embraced in this class, and most of them would be overlooked if the observer trusted to external appearances alone, and did not test the strength of the perineum by digital touch. Gentle stretching will afford abundant evidence that the strength and retractile power is greatly diminished.

A pathological result that is likely to follow any or all of these injuries is a condition that has been denominated subinvolution, which has for its direct cause the congestion consequent upon the injuries, and possibly, to some degree, the hyperæmia set up for their repair.

Relaxation is the ultimate result, supposedly from malnutrition in the muscular structures in a condition of subinvolution. Then may follow retrocele, cystocele, the various displacements, prolapsus.

I have thus briefly run over the main facts and results, in their pathological order, of injuries to the perineum and pelvic floor that lead me to hold that no appreciable rupture is unimportant at the time of labor.

The logical sequence of this position, then, is, that for the sake of prophylaxis immediate repair should be advocated as a rule. This brings us to the consideration of the subject of repair, as it relates to the primary and secondary operations, and the methods to be employed. First and most important is the treatment of the condition immediately after labor. Is the lesion to be repaired at once, or left till cicatrization has taken place, or later? There are cases where operation must be postponed, but they form the exceptions. The consensus of opinion among gynecologists is in favor of immediate operation as a rule of practice. There is every argument in favor of it, and not a valid one against it. By *immediate* is meant any time within one or two days, though the preferable time is within the first hours after labor. Then it is a simple and easy operation to perform. An anæsthetic is rarely necessary. The application of a little ten per cent. solution of cocaine will effectually deaden all sensibility for the short time required in passing the sutures. It may be necessary to cut off one or two ragged points, and at most only a few stitches will be required. When well done it rarely fails. It is easier to bring the torn structures into normal coaptation, and they are also more securely shut off from septic discharges thereby. If successful, it prevents or lessens the probability of subinvolution, and renders unnecessary a severer operation at a later date. The repair of the

lesion, when it has extended through the sphincter, is a little more difficult task, but only slightly so, and usually the healing is most kindly.

I will venture to say that fully two-thirds of the operations we are performing for the cure of this lesion at the Woman's Hospital would not be required if the injuries had been repaired at the time of confinement. If this is true with us, what must be the multiplied result throughout the city?

Now as to the methods to be employed.

The one to be selected should be scientific, and, to be so, must be based upon correct pathological conditions. There have been many ingenious devices, originated by clever and eminent men, for the repair of the various lesions of the perineum and pelvic floor, and their discussion is full of interest to the special student, but they do not come within my present design, which is to treat of methods that are capable of wide application, methods that are simple in detail and rapid in execution, and suitable also for the immediate and the secondary operation.

To my mind the one that fulfils most of the requirements, is thoroughly scientific, and nearest to universal application, and, moreover, has stood the test of time, growing more and more popular the better it is known and understood, is the one devised by Dr. Emmet. It is based upon the indisputable pathological fact, that most tears extending inside the perineum do so in the line of least resistance, and that is into the sulci that lie to either side of the vagina. The method aims to make a denudation as near like the original tear as possible, and to correctly restore the separated structures to their normal attachments.

This method, however, is hardly the one to employ in the immediate operation, unless the operator has made himself the master of all its details. It is simple enough when thoroughly understood, and will amply repay anyone for making himself familiar with it. In the hands of the inexpert, the large number of stitches, if of silver wire, which Dr. Emmet uses exclusively, passing in three different directions, may produce sloughing in the centre and leave an open wound to heal by granulation. I do not mean the whole wound, but the centre portion, below the crown stitch, where the sutures come together. It is true, as Dr. Emmet claims, that this rarely affects the ultimate success of the operation, as the closure of the angles is the main point to be attained, and they always hold. Sloughing is not, however, a comfortable thing to have occur, and may be a dangerous thing. If catgut is employed this accident is not as likely to happen, as it, the catgut, readily softens and yields to the tumefaction of reparative hyperæmia.

It would seem desirable, therefore, to find some method of passing sutures that is not complex in any of its details, and which affords an easy way of closing the primary rupture, and practically accomplishes the result aimed at in the Emmet operation. This, I think, is attained by the method I will now describe with the aid of a diagram. The sutures are introduced exactly in the same way, whether the operation be primary or secondary. I have chosen to represent them here as applied in the secondary operation, as that suits my purpose a little better, and answers perfectly well the purposes of illustration.

The usual broad denudation, extending well into the sulci, having been made, the first suture is passed in at the centre (1, Fig. 1) of the denuded surface on the patient's left, a quarter of an inch from the edge, is carried well back, deep under the tissues, to embrace the retracted muscles, across between the denuded surface and the rectum, to the centre of the denuded surface, then down and out a quarter of an inch from the edge, at a point (2, Fig. 1) midway between the centre of the denuded surface on the patient's right, and the posterior commissure, *D*. It is then carried over without cutting, and entered at a corresponding point (3, Fig. 1) on the patient's left, directly opposite the point where it was brought out; then carried up, buried, to the centre of the denuded surface, across, and out a quarter of an inch beyond the centre of denuded edge (4 *A*, Fig. 1), directly opposite the point where it was first introduced. This suture is marked *A* on the diagram.

The second suture, or suture *B* in diagram, is introduced just below the summit of the denudation on left labium ((1) *B*, Fig. 1), and passed, buried, close to the denuded edge, around the angle in the left sulcus to the highest point of denuded surface on the columna, at *C*, Fig. 1, then across, still buried, the angle of right sulcus and out at (2) *B*, Fig. 1, which is a point midway between summit and centre of denudation on right labium; then carried over without cutting, and is entered at (3) *B*, Fig. 1, a point corresponding to the one

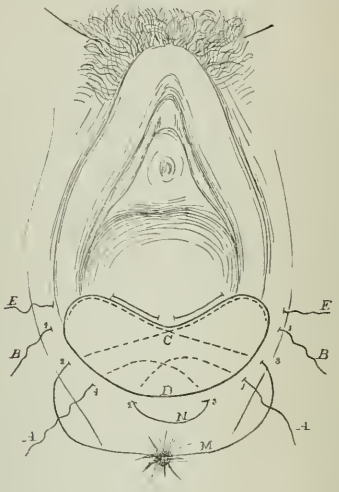


FIG. 1.

where it was just brought out, then across, buried, the angle of left sulcus to the point *C*, and finally passed around the angle of left sulcus close to the denuded edge and out at (4, *B*, Fig. 1) a point corresponding to (1) *B*, Fig. 1, where it was first introduced.

As an extra precaution, and to prevent dragging, when catgut is used for the other stitches, *A* and *B*, I introduce usually a third, after the manner of Emmet's crown stitch, though not for the same purpose, and call it the protection suture. It is marked *E* in the diagram, and should be either of silver wire or silkworm gut. It is entered close to the summit near point (1) *B*, carried through the labium and out on the mucous membrane, then takes up about a third of an inch of mucous membrane on the columna at *C*, then passes through the summit of right labium.

The sutures are now tied, beginning with the lowest, *A*. By drawing upon the ends of this suture it will be observed that the loop *N* is tightened, and the points (2) and (3), *A*, Fig. 1, are brought together; then, by bringing the ends over and tying, the points (1) and (4), *A*, Fig. 1, are brought together, completing the first suture. We have practically two sutures with but one tying. The second suture, or suture *B*, Fig. 1, is next secured. By drawing on the ends loop *M* is tightened, the points (2) and (3) *B*, are approximated, and the highest denuded point at *C*, on the columna, is brought forward to them; then, by bringing the ends over and tying, the angles are closed separately, and the operation is completed, unless the protection suture has been used. Thus, then, are practically four sutures with but two tyings. When the protection suture is used, it is secured last. It is unnecessary when silkworm gut, or silver wire, is used for suture *B*.

In extreme cases of extension of the laceration into one or both sulci, a combination of the Emmet sutures, to close the upper portions of the angles, may be used with this method, or the same form of suture may be used for the angles also. In diagram, *L* and *R*, Fig. 2, (*L* marks the angle of left sulcus), are represented three sutures introduced after the Emmet method, that, when tied, will draw the angle up toward the ramus of the pubis. At *R* is the angle of right sulcus, with one suture introduced after the manner proposed above. It will be seen that, as the ends of this suture are drawn upon, the loop *O* is tightened and the points (2) and (3) are approximated, and, when the ends are tied the whole angle is drawn up, quite as much as it would be had the sutures been introduced as at *L*.

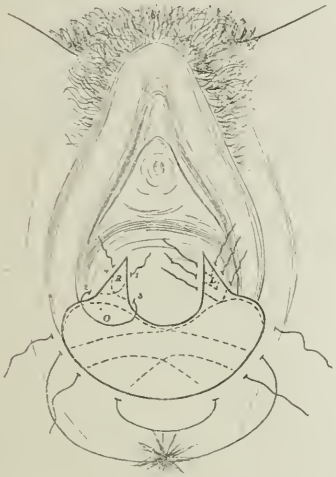


FIG. 2.

The angle sutures should be first introduced, and the operation then proceeded with after the method described.

In lacerations through the sphincter I believe the method, with a slight modification, will prove useful. The sutures for closing the rent in the bowel should be first introduced. Here I prefer the continued suture of catgut. The others are then to be passed after the manner before sketched, with this exception, viz.: to substitute for the lower suture (suture *A* of the diagram) two transverse sutures, the reason for this being that, if my suture were used, at the point where the two portions of the suture would cross each other, which would be directly over the rent in the anus and rectum, there would be a liability to too much dragging. The upper suture (suture *B* of diagram) should be retained. In some cases it may be found advantageous to introduce even another figure-of-eight suture below suture *B*. Thus far I have employed this method in eight cases, all of which were most satisfactorily successful. I mean by this, that not only were the rents closed, but the very thing which is essential in the proper restoration of the perineum, the drawing of the vagina up to the pubic rami, was markedly accomplished.

Catgut and silkworm gut are preferable for the sutures, though any kind of material usually employed may be made use of here.

Farther observation, I believe, will lead me to continue the use of catgut and retain the protection suture, as an essential part of the operation. For the protection suture I have used both silkworm gut and silver wire. One answers the purpose as well as the other.

The time required for the performance of the operation by this method is from ten to fifteen minutes. Time is of importance in any case, and especially so where, as frequently happens, it is necessary to repair both cervix and perineum at the same sitting. All the time that can be saved in etherization, other things being equal, is of advantage to the patient.

In sewing the primary tear I believe there is an especial field for the method. As there is no denudation to make, the whole operation should not occupy more than five minutes. In some cases it will be found necessary to use but one stitch "*B*," Fig. 1. By this method the raw surfaces are securely shut off from infection by septic discharges.

The requirements for the proper restoration of the ruptured perineum are, then: simplicity in technique, ease and rapidity of execution, and thoroughness with which the torn structures can be restored to their normal attachment. These I believe are fulfilled in a large degree by the method I now offer for discussion.

STUDIES IN THERAPEUTICS—ANTIPYRIN.

By JOHN AULDE, M.D.,

PHILADELPHIA, PA.

ANTIPYRIN is a remedy originally introduced to the attention of the medical profession as an antipyretic, hence its name, and although a proprietary article it has been used quite extensively throughout the world. A large mass of material has accumulated in the shape of reports from physicians, and perhaps a majority of the profession have determined in their own minds the special classes of disorders in which it may be used with advantage; others, less observant, doubtless have not formed any very definite ideas in regard to its use, and principally for them, and for the historical value which it will possess, the following observations have been prepared.

Materia Medica.—Antipyrin (dimethyloxychinicine, or phenyldimethylpyrazolon) is a synthetically prepared product in the form of a white, crystalline powder, or scales, obtained from the destructive distillation of coal-tar by a private and complicated process. It is freely soluble in cold water, but less so in alcohol, ether, and chloroform. Dose, 5 to 30 grains, in peppermint water, with a little syrup; it is also used hypodermatically, in the same dose, with warm water, and by the rectum in the case of heat-fever, to reduce temperature. Dose for a child five years of age, not more than 4 grains, to be repeated at intervals of three or four hours.

Pharmacology.—The ingestion of lethal doses of antipyrin is attended with restlessness, great anxiety, slow and labored respiration, with more or less giddiness, symptoms which should be combated by the administration of diffusible stimulants, small doses of nux vomica, together with the inhalation of pure oxygen gas, or the practice of artificial respiration. When it is impossible to adopt these measures immediately, cold applications are to be made to the entire body, as it has been demonstrated that cold postpones the toxic effects of the drug. Synergists include all remedies which have a depressing action upon the organism, except cold.

The experiments of Batten and Bokenham [1] indicate that antipyrin in lethal doses affects both the brain and spinal cord; the most pronounced symptom, that is, the condition most uniformly noted, being rigidity of certain sets of muscles. In frogs this occurred first in the forelegs, and in the hinder extremities of guinea-pigs. Rhythmical movements of the limbs followed, as if the animal was attempting to walk, although it remained lying on the side. At times the use of the forelegs was regained, when circular movements, always in the same direction, followed, the hind legs being used as the pivotal point. Later, extreme irritability came on, when a draught of air, a footfall, a vibration, or a slight tap was sufficient to produce convulsive movements, effects due apparently to the

[1] British Medical Journal, June 1, 1889.

influence of the drug upon the nervous system. They concluded, finally, that these convulsions were of spinal origin rather than cerebral. A strange coincidence should be mentioned in this connection, viz.: When toxic doses are administered to animals under anæsthesia, convulsive movements are postponed until consciousness is regained. The observers seem to be warranted, therefore, in the conclusion that "the action is due directly or indirectly to its influence on the nervous system, . . . mainly on the spinal cord, but also on the brain and motor nerves." Death is due to paralysis of the respiration, and as quite a number of accidents have been reported from the employment of this drug, a repetition of Semnola's words at the Paris Congress in 1889 will not be inappropriate. Doubtless many physicians would willingly emphasize his remark, that "antithermics act like poisons; they afford a sort of temporary relief, but at the expense of the patient's strength and early recovery."

When using antipyrin medicinally, care must be taken to avoid incompatibles; thus, when chloral and antipyrin are united in a mixture an oily liquid is formed, and gradually crystals are deposited. This substance has been investigated by Herr Reuter,[1] who states that it is therapeutically inert, although he has given it the following technical name: trichloraldehydphenyldimethylpyrazol. In the same journal for May, 1890, the incompatibility of antipyrin with carbolic acid, confirmed by Tarday, was noted. A solution of carbolic acid added to antipyrin separates, after some hours, into two layers, the upper layer containing no carbolic acid, but having the taste of antipyrin. The lower layer had a piquant taste, a faint rosecolor, and slight odor of phenol, with a specific gravity of 1.13. Soluble in alcohol and ether, but insoluble in water, and neutral in reaction.

Antipyrin possesses the property of increasing the solubility of certain salts of quinine. When to the hydrochlorate of quinine a small quantity of antipyrin is added, it will become readily soluble in a comparatively small quantity of water, while it has the advantage of remaining unaltered. The almost insoluble valerianate of quinine may be prepared in a similar manner; one part of the valerianate combined with from one to one and a half part of antipyrin will readily dissolve in double the weight of water at 62° C. In view of these facts it has been suggested that this combination may find a practical application in the preparation, without the addition of an acid, of a stable solution of quinine for hypodermatic use. A combination has been suggested with salicylic acid, under the name of salypyrin, but at present no therapeutical indications have been mentioned. When combined with sweet spirits of nitre, antipyrin causes a greenish-blue precipitate, called iso-nitroso-antipyrin, but physiological investigations show that this product is harmless. The precipitate may be avoided by the addition of a small quantity of water of ammonia to the nitre before combining it with the antipyrin. About one drop to the half ounce of sweet spirits of nitre will generally be sufficient, and if the bottle is kept well stoppered no precipitate will take place for months. The alkali neutralizes the nitrous acid of the nitre, thus preventing its combination with the antipyrin.

Elimination takes place chiefly by the kidneys, and therefore it must be used with caution where we have present organic changes in these organs.

The general action of antipyrin is that of an antipyretic and analgesic, although it is not now so highly regarded for its antithermic properties as when first introduced. It has within a comparatively recent period been gaining a reputation for the relief of neuralgia and other acute affections, which apparently in the main seem to be due to the condition of the blood, the general debilitated condition of chronic neuritis, or other derangements of the system whose causes are not well understood. It should, however, be borne in mind that the disorders are for the most part symptomatic, and that the relief afforded by antipyrin is but palliative. A word should be added concerning its antipyretic properties, and its comparative value in this direction. This subject has been studied by Major Crombie,[1] who regards antipyrin as entitled to the first place, although phenacetin, he says, is a close second; in point of safety, however, phenacetin is the best, because in his experience with these agents in intermittent, enteric, and simple continued fever, and acute tuberculous pneumonia, it did not produce subnormal temperature, nor did it cause collapse. The effect is more prompt than when either antifebrin or phenacetin is given, although the temperature reduced by phenacetin is longer in rising again than after a reduction by antipyrin. Crombie regards the sweating which follows the use of all these drugs as an objectionable feature, and in this respect he thinks they are all alike. Antipyrin, we may conclude from the foregoing, is the remedy to use when the hyperpyrexia becomes dangerous, while phenacetin and antifebrin in small doses may be used when the object is to reduce a moderately high temperature, and at the same time maintaining a lowered temperature.

Reference has already been made to the action of the drug upon the nervous system. The conductivity of the motor nerves is first destroyed, and following immediately upon this they lose their irritability. Observations with relation to the influence of antipyrin on the normal circulation are somewhat contradictory, some claiming that blood-pressure is not increased, while others assert the contrary, insisting that blood-pressure is raised, the frequency and force of the heart being increased. The facts appear to be about as follows: The first effect upon the circulation, which is comparatively transient, is to increase the pulse-rate, which creates a subjective sensation of warmth. This condition is succeeded by more or less free perspiration, lessened frequency of pulse, and a sense of chilliness, together with pallor, takes place, with an actual fall of temperature of from one to three, or even five degrees. The decline in body-heat begins usually within half an hour, and may continue two to five hours, or even longer, but with the exception of heat-fever this decline is not maintained unless the drug be continued. No influence is exerted upon normal temperature, which leads to the conclusion that its exhibition is attended with less danger than some other members of the phenol group, at least when large doses are given.

It has been noted that the action of antipyrin upon the temperature is similar to that of picrotoxin; heat favors the activity of the drug, while cold hinders the effect. In the case of lethal doses being taken, therefore, followed by paralytic symptoms, cold to the surface, in the shape of ice-bags, will arrest its power, and probably prevent a fatal termination—an important item to be borne in mind in the treatment of heat-fever. Professor Cash says it is not a specific through its influence upon the temperature, and he recommends but small doses—one grain three times daily—to reduce hyperpyrexia. While this dose is very minute, as we understand it, no doubt good will follow its employment in small doses at short intervals. A word should be added to the effect that antipyrin is not indicated in scarlet fever, diphtheria, and eruptive diseases as a class, measles excepted. The line is drawn at measles owing to the fact that as it is usually a light disease the action of the drug upon the skin would be desirable, while the other disorders are more tedious in their course, and consequently the depressing effects of the antipyrin would be objectionable.

Failure of respiration is doubtless the cause of death from the long-continued exhibition of antipyrin, an observation which may possibly throw some light upon the exceptionally great mortality attending the influenza which appeared in this country about a year ago. There can be no doubt in the minds of many observing physicians that deaths could be traced directly to

[1] Pharmaceutical Journal and Transactions, February, 1890.

[1] Practitioner, October, 1889.

the use of this drug, sometimes ordered by the physician, but too frequently taken on the recommendation of some kind (?) friend.

The curious circumstance connected with the action of the drug on muscular structure has already been noted; during anæsthesia no effect is noticeable from lethal doses.

The effect of antipyrin upon the digestive apparatus, the blood, and secretions must not be overlooked. Apparently antipyrin does not act as an irritant to the stomach, but in small doses, not too frequently repeated, it rather aids digestion, possibly through its influence over micro-organisms, although occasionally vomiting is produced, when it must be given subcutaneously or by enema. Upon the blood important changes are effected; the hæmatin being separated and the corpuscles altered in form, the blood assumes a chocolate hue. This action is much like that of antifebrin, large doses destroying the oxygen-carrying capacity of the red corpuscles.

Antipyrin affects the entire genito-urinary tract. The urinary secretion is markedly affected; the elimination of nitrogenous material is reduced both in health and disease, while the inorganic salts are diminished. The excretion of urea is also diminished, as well as the urinary water, and, as previously noted, it must be used with caution where organic renal changes are present. The action upon the uterus is such that clinicians are not favorable to its employment during the menstrual flow, and it must be given with caution to nursing women, as it has been known to arrest the secretion of milk.

A symptom not infrequently noted after the exhibition of antipyrin is the rash which appears on the skin. It is similar to that which we see in attacks of measles, and consists of circular rose-colored spots, which show a brown pigmentation on pressure. A case of poisoning from seven and one-half grains has been reported (MEDICAL RECORD, 1887), which was attended with gastric pain, and followed in a few minutes by an urticaria-like eruption over the body, and great itching. The symptoms were caused to disappear by the subcutaneous use of $\frac{1}{60}$ grain of atropine (Whitehouse). The antiglycogenic influence of antipyrin has induced practitioners to recommend it in the treatment of diabetes; but it is doubtful if such treatment can be more than palliative, as the liver will demand other treatment to restore its integrity.

Therapeutics.—While it was intimated in the beginning of this paper that antipyrin was losing its position as an antithermic, it does not follow that the drug is losing its popularity, or that its employment will be discontinued. On the contrary, a multiplicity of uses have been found for this remedy aside from an antipyretic, and an effort will be made in the following remarks to indicate, in a connected manner, the various classes of disorders in which it may be used with prospects of success.

First in order will come the study of antipyrin in the treatment of spasmodic affections. Asthma is the first of this class demanding our attention. Whether in the moist or dry form, antipyrin will usually relieve the first attack, if given in doses ranging from ten to twenty grains, but after the disease has been some time under this treatment the remedy appears to lose its effect, and no benefit can be noticed. Unfortunately it does not diminish the frequency of the attacks, and occasionally it does harm by increasing the severity of subsequent attacks. The *rationale* is extremely simple; the influence of the drug upon the blood obtunds the sensory nerves, and succeeding upon this we have a changed condition of the blood, which favors the accumulation of carbonic acid. The advantages as well as the disadvantages of antipyrin in this disease will be apparent; while it may be used as an expedient in the emergency, when the nitrites, trinitrin, and oxygen inhalations are not at hand, it will be of no permanent benefit.

In the treatment of whooping-cough in the early stages antipyrin must be accepted as a remedy of undoubted value, and a very large number of cases have been reported in current medical literature. Guaita thinks possibly it may possess some inhibitory action upon the nervous system, and in addition antiseptic properties; but it will be apparent that the influence must be due to its effect upon the blood, and indirectly through the nervous system. For a child five years of age the dose should not exceed four grains, at intervals of four hours, and care must be taken that cyanosis does not appear, and the action of the heart and respiration should be closely watched to prevent collapse. In the case of much irritability of the stomach a minute quantity of cocaine may be added to the treatment, and along with this we might suggest the use of amber-oil as a counter-irritant to the spine, and small doses of calcium sulphide. These precautionary measures seem to be warranted from the fact that Tuczek reported the case of a boy,[1] who had taken the drug for a considerable period to allay the paroxysms of whooping-cough, when, at the expiration of three weeks, he was attacked with vomiting, and passed into a somnolence ending in deep sleep followed by epileptoid spasms — sometimes general, sometimes unilateral — accompanied by grinding of the teeth and jactitation, arythmia of the cardiac beat, and dilatation of the pupils.

In using antipyrin for the relief of renal spasm due to the presence of calculi, Huchard discovered that it possessed curative properties. Fifteen grains daily for some weeks will cause the disappearance of sand and uric acid crystals from the urine. The following is the formula of Schweig, of Carlsruhe:

℞. Antipyrinæ ..... gr. lx.
Sodii bicarbonas ..... gr. xij.
M. et ft. chartulæ, No. vi. Sig.: Take one powder after meals.

Although antipyrin is not usually indicated during the menstrual flow, owing to its effect upon the nervous system, which, as we know, is decidedly affected during that period, it has been employed successfully for the relief of menstrual colic. The dose recommended seems large—thirty grains, by enema—but no harmful results have followed when a glass of wine has been given to prevent collapse. This amount, it is said, can be repeated at the expiration of twelve hours should there be a demand, but its continuous use would be contraindicated.

The treatment of chorea, which is so often tedious and vexatious, will sometimes readily yield to antipyrin, whether simple or that dependent upon a rheumatic diathesis. For a child five years of age, after several small doses have been used to determine the tolerance for the drug, seven and one-half grains may be given three times daily. The following formula will be found useful:

℞. Antipyrinæ ..... ʒ iij.
Syr. auranii cort. ..... fl ʒ ij.
M. Sig.: One teaspoonful in water three times daily.

The action of the drug is manifested in the treatment of laryngismus stridulus. This is occasionally met with in very young children, and in such cases a small dose at short intervals will be indicated. The dose should not exceed one grain for each year of age, so that a child two years old would receive two grains every two hours until relief was obtained, unless there arose counter-indications. The drug has been recommended for the treatment of epilepsy, but the results so far have been unsatisfactory, large doses being necessary, and further, these patients suffer from more severe attacks after the use of the drug. Several reports have appeared regarding the use of antipyrin by enema in doses of thirty grains to overcome the pains of labor, and it is claimed that relief is afforded, and that there is no arrest of the expulsive efforts of the parturient womb. In view of the sudden dangers from the incautious use of the drug, however, I am inclined to doubt the advisability of this practice, and would suggest an anæsthetic instead.

When using antipyrin to overcome hyperpyrexia it seems to carry with it certain undefinable yet appreciable

[1] British Medical Journal, 1889.

anodyne and hypnotic properties, and may be used successfully in various neuroses, especially sciatica and other painful affections, presumably of rheumatic origin, as hemicrania, supra-orbital neuralgia, and in that form of insomnia due to "nervousness;" but it should be added that it will be found more especially valuable when these affections are associated with neuritis. There are diseases in which are present slight indications of spasm, and the value of antipyrin in this class of cases has been abundantly proven.

A number of prominent observers have within a year past given some attention to the employment of antipyrin in the treatment of diabetes mellitus, and the results obtained are such as to merit a favorable opinion of the drug in properly selected cases. Among those who have indorsed antipyrin in this affection may be mentioned M. Germain Sée, who, while administering antipyrin to a diabetic patient for neuralgia, was surprised to notice that the sugar entirely disappeared from the urine. Huchard has also used the drug with good results in polyuria, and also Dujardin-Beaumetz and M. Panas, the dose recommended being forty-five grains daily. The class of cases in which this treatment will answer best includes elderly persons and those who are comparatively robust, and in such cases a more liberal dietary may be permitted than is usually allowed diabetics. Whether warranted or not, the assumption has been advanced by those who have studied the matter, that the good effects following the use of antipyrin are due to its sedative action on the body, and that it is similar in this respect to opium and its derivatives. My own impression is that the sedative action of the drug is due to the changes taking place in the blood, and therefore my conclusion is, that antipyrin exercises a favorable influence in the disease under discussion owing to the changes in the blood, and the influence which these changes produce upon the nervous system.

Professor Sée believes that the dietary should include small quantities of fresh bread as well as some boiled potatoes, daily, in order to satisfy the cravings of the patient for carbohydrates. It is doubtful if antipyrin can cure glycosuria, although it doubtless may have a decided influence for a time on the excretion of glucose, and the subject is worthy of further study.

The treatment of sciatica, so often troublesome, will be greatly simplified by the judicious employment of antipyrin, and when we have a suspicion of a malarial element, the drug may be combined with equal parts of quinine, say seven and one-half grains of each three times daily. The suggestion may be advanced here that sciatica is a disease often composed of two factors, rheumatism and malaria, which will account for the good effects following the use of the combination named above, although either drug will serve to allay the paroxysms. Of course, much depends upon the condition of the system. Professor Cash says, no doubt it reduces the temperature in rheumatism, but does not shorten the disease, nor does it have any tendency to prevent a recurrence or the appearance of cardiac complications.

There is some question as to the advisability of giving antipyrin in pneumonia. Dr. H. G. Beyer has contributed an article on this topic, with an account of two cases,[1] and although the treatment included the use of morphine hypodermatically, he is inclined to believe that antipyrin had a favorable influence upon the course of the disease. For my own part, I cannot see that antipyrin will do more than relieve the pain, while it will certainly, if long continued, have a tendency to weaken the action of the heart. It may, however, have a favorable action upon the circulation, as my friend, Dr. E. T. Sabal, of Jacksonville, Fla., tells me that he has witnessed remarkably prompt results from the exhibition of comparatively small doses of antipyrin in pulmonary hemorrhage. In both instances the hemorrhage, which was very profuse and alarming, was arrested almost immediately, and he is disposed to think that it was something more than a mere coincidence.

[1] Medical News, June 15, 1889.

The use of the drug has been referred to in the treatment of headaches. It remains to be added that the sthenic cases are those most benefited, as it would be injudicious to use it for any great length of time where the vital powers are depressed from malnutrition.

Topically, antipyrin has been used as an insufflation for the relief of catarrhal affections of the upper air-passages, and may be employed in the form of enema to relieve the painful sensation produced by hæmorrhoids; but we have other more suitable remedies for both affections. An instance is recorded in which antipyrin was used by inhalation (1 to 20 of water), for the relief of hæmatemesis, and succeeded after a number of other remedies had failed.

The subcutaneous use of antipyrin has not thus far been practised very extensively, although various formulæ have been suggested. Antipyrin and ergot, it seems, would be incompatible when used together, although there might be indications for both drugs, and given at separate intervals much benefit might be derived from the combination. It might be advisable to combine with the antipyrin, hypodermatically, a small quantity of cocaine. As stated previously in this paper, antipyrin and quinine may be so prepared that they can be used subcutaneously to good advantage.

In conclusion, it is to be remarked that while antipyrin has met with extensive use, and has been employed successfully in the treatment of many and various affections, it is a drug which ought to be used with the greatest caution, especially when ordered for a patient for the first time. The tolerance of the patient should be studied before a large dose is administered, and care is necessary that the drug be not too long continued. The treatment of diseased conditions by antipyrin is not curative in the true sense of the term, and when too much dependence is placed upon it, the convalescence is prolonged, owing to the influence which the drug has upon nutrition.

1910 Arch Street.

BALNEO-THERAPEUTICS AND MECHANO-THERAPEUTICS APPLIED TO THE TREATMENT OF CHRONIC HEART DISEASE.

By THEODOR SCHOTT, M.D.,

Bad-Nauheim, Germany.

This essay is, in brief, a *résumé* of observations and experiences made in the course of fourteen years, during which time I have had occasion to observe and treat twenty-seven hundred cases of cardiac disease. At the outset I would beg to ask attention to a recapitulation of the labors of the late Dr. A. Schott, who, with myself, gradually developed the plan I have in recent years applied to this class of cases. In 1872 Beneke called attention to a series of fifty cases, which showed that treatment by saline baths not only prevented recurrences of attacks of acute articular rheumatism, or increased the intervals between attacks, but that recent endocardiac deposits and changes, such as are the complications and sequelæ of acute articular rheumatism, were absorbed to a greater or less extent. It was this that induced my brother and myself to apply this form of treatment to that more numerous class of cases, chronic endocarditis.

The special object of this paper is less to attract attention to Bad-Nauheim as a health-resort for this class of cases—for I appreciate only too well that, to the great majority of cases, absence from home and travel are impossible—but rather, by offering minute and carefully detailed directions as to both artificially prepared baths and gymnastics, to enable the practitioner to apply the treatment himself, and thus to obtain the same effects, if not in their entirety, at least to a gratifying extent.

It had long been known that baths containing salts and carbonic acid retarded the pulse-rate, yet no value was set upon this until Dr. A. Schott and myself had called at-

tention to the fact that these baths, as well as gymnastics, might fairly be considered as cardiac tonics, and that they derived their importance from their tendency to produce cardiac hypertrophy, and were, indeed, most important means of reaching the heart-muscle, the condition of which we considered the key to the treatment of cardiac disease. To a large series of cases we then applied the treatment by baths, combined with light gymnastics, which latter we replaced later with slight ascents of moderately inclined hillsides, following the suggestions of the great Stokes. Marked improvement followed in many cases, and complete cessation of murmur in a satisfactory number. Thus, both the baths and exercise were cardiac stimulants, urging the heart-muscle to renewed vigor and overcoming the cardiac dilatation, which was the principal thing to be overcome. (I do not here refer to *compensatory* dilatation, which requires no treatment.) A mere reference to the various essays which contain the result of our theoretical labors, in confirmation of the above practical results, will suffice at this present moment, and although what we are to say seems almost self-evident, its recognition has only been possible after a long and large experience, coupled with most devoted, self-sacrificing scientific activity. And although these results have been obtained at the natural baths of Nauheim, yet I am convinced, by many experiences, that the identical results may be achieved by artificially prepared baths. In all cases it is essential that the patient be examined before, during, and after the bath and exercise, for the exact effect cannot be otherwise gauged; and just as in other diseases the same treatment will not yield the same result in similar cases, so in this treatment much harm may be done when applied to improper cases or in an improper manner.

A. The Treatment by Baths.—If any sign of loss of compensation be present, it is best to begin with a one to one and a half per cent. solution of chloride of sodium (NaCl) to which from one to one and a half pint per thousand of chloride of calcium (CaCl) is added. The duration of the first bath should not extend beyond ten minutes, the commencing temperature should be from 92° to 93° F., and should not go below 88° F. during the first week. Special care should be taken with anæmic persons, and others with poor circulation, who feel cold easily. Equal caution should be used with rheumatics, not to use too high a temperature, never going beyond 95° F. For, useful as the application of warm baths and douches may be in relieving pain and reducing swelling, the tonic effect upon the heart is lost in an equal degree when applied to the latter group of cases. Instead of warmer baths, use those which are cooler and of shorter duration. If the patient remain quiet, it is permissible for him to feel cool for the first half-minute, after which he ought to feel the reaction to a grateful warming sensation; if not, the temperature has been too low, and the bath should be made warmer. No second chilly sensation should follow, for this is evidence that the bath has been too long continued, at least for this particular temperature, and the patient should leave the bath at once. During the beginning of a course of treatment, intermissions should occur at stated intervals. At the outset the bath should be omitted every other day, then every third day, and finally every fourth day. Later the bath is increased in all directions; in its chloride of sodium increasing it to two to three per cent., the chloride of calcium being increased to one-half to one per cent. Next, with the latter percentage of salts a small quantity of carbonic acid gas (CO_2) is added (equivalent to the Nauheim thermal bath); and last of all to the bath with a large quantity of carbonic acid (the so-called Nauheim bubbling-spring bath). Coincidently, we diminish the temperature to 88° to 85° F., even exceptionally to 80 F., and increase the duration to twenty and twenty-five minutes. It is not possible, however, to imitate the strongest of the so-called Nauheim aërated bubbling spring bath (Sprudelstrombad).

In the other artificial baths it is not difficult to supply the carbonic acid by using bicarbonate of sodium and hydrochloric acid. Dissolve the sodium salt with the other salts in the bath, and then put in a vial containing the acid, allowing it to diffuse slowly from out of the uncorked vial; or else mix the acid with the bath, and carbonic acid will continue being developed for half an hour and longer.

If you take a diluted solution containing forty-two per cent. of hydrochloric acid, you use equal parts of solution and bicarbonate of soda; if the solution be weaker, you must add more of the latter. For a weak carbonic acid bath from 100 to 150 grammes of each will do, until you finally have increased it to from 1,000 to 1,500 grammes.

Now, if in the course of the bath treatment, the effect upon the heart, pulse, respiration, and general well being is favorable, be careful not to push the treatment to the extreme, for the bath is laborious to the body, and the slightest excess may constitute overstrain and be followed by bad consequences.

B. Gymnastic Treatment.—In resorting to gymnastics we make use of two varieties, passive and active; or more properly speaking, in the former case movements of resistance, the muscular strength of another controlling the extent of the movement of the patient; in the latter, the patient himself calls into action antagonistic muscles and thus limits his own movements—self-limited movements. The following rules, among others, should be applied in resorting to them: Every single exercise must be made so slowly, and in movements of resistance the counter-pressure must be so carefully gauged, that the patient is able to breathe quietly throughout the entire movement. This is best secured and all muscle-tire guarded against by changing and constantly calling into action new sets of muscles, and leaving an interval of rest after each new exercise. The gymnast is instructed to control the respiration by observing the mouth and alæ nasi, noting the pulse as well, and still further regulating the resistance to such an extent that the patient retains the mastery. In order to maintain this latter, if you are dealing with seriously ill patients, every individual exercise should be divided up into its component movements, allowing the extremity called into action to rest in the hands of the gymnast meanwhile. Still further, all movements must be completely carried out, and must not be allowed to falter or remain unfinished.

The movements to be applied to the muscles of the extremities and joints are so suggestively evident that it is not necessary to enter into details about them here. I would call attention to the fact that ordinary intelligence and zeal will enable the physician to make a gymnast of some one member of the family, and thus make this treatment more accessible and less onerous in many ways to the patient. The gymnast must not seize the entire circumference of the joint, lest he limit the movements rather than favor them. If any exercise have been undertaken too quickly or with too much resistance, which increased rapidity of pulse and respiration will show, the next exercise must be delayed until everything has been restored to rest. Later it is highly desirable to have the patient make use of the self-limiting exercises, which have the advantage that a third person is not needed. Still it is considered advantageous to resort to the passive exercise for several weeks at the beginning of treatment. As a finale in gymnastic treatment, resort is to be had to mountain, or rather hillside, climbing, the most severe form of exercise, after the heart-muscle has been sufficiently restored to tone.

Contrary to Oertel's claim, as I have remarked in other papers upon the subject, I do not consider hillside climbing at the outset as at all proper in the resort to gymnastic treatment, but rather at the end of it, if we would guard against probable dangers, which under some circumstances may threaten the life of the patient; for climbing requires an amount of over-exertion upon the

part of the heart-muscle which it is not equal to at the outset. Still further, other methods of treatment (medicinal agents, baths, gymnastics, etc.) should be used to strengthen the heart until it can undertake this over-exertion without any risk. The physician should, however, not rest satisfied until he has carried the patient up to the point where mountain climbing may be undertaken without danger, as I have been enabled to do in a considerable number of cases. I have seen patients, after the completion of the cure at Nauheim, including the gymnastic treatment, make extensive tours through the Alps—yes, even (and I have the corroboration of the family physicians of the patients) ascending Mont Blanc and Monte Rosa—without having been troubled with any inconvenience as far as the heart was concerned.

Mode of Action and Results of the Balneo-therapeutical and Gymnastic or Mechano-therapeutical Treatment.—In a few words I wish to explain the mechanism by which this treatment accomplishes its purpose. Whether time may call into question the following theory or not, the facts—that is, the favorable results of both forms of treatment—must remain unimpeached. Irrespective of the hundreds of cases of improvement and cure which I have seen in Nauheim, and which I have published, other authors (Scholz, Mayer, Schmid, etc.) have in their own experience confirmed the correctness of these utterances.

As already stated, we increase the weakened action of the heart, giving tone to the cardiac muscle, and enable it to empty itself of its excessive quantity of blood by reinforcing its systolic contractions. It has been demonstrated, by myself and others, that by imbibition the bath incites the sensory tegumentary nerve filaments to cause more forcible cardiac contractions. Gymnastics produce the same result through the motor tracts. We thus, in a majority of cases, note the following as a result of treatment by both means: At first the tendency to lateral dilatation disappears, particularly in the direction of the right heart, though that in the opposite direction becomes appreciably less in the course of treatment; the most difficult problem, however, is that we have in overcoming the yielding in the longitudinal axis; yet even in this direction we can in time, by palpation and percussion as well as by the visible rise in the apex-beat, recognize that retraction on the part of the left heart takes place. By auscultation we frequently observe a murmur passing over into a reduplicated heart sound and finally succeeded by the normal sound, thus proving that no organic valvular change existed, but that the signs of a relative insufficiency were alone present. Again, in other cases in which the heart-sounds were hardly appreciable on account of the weakened cardiac muscle, murmurs become appreciable through the strengthened action of the heart. *Pari passu* with these objective phenomena, existing dyspnœa disappears, an arhythmical pulse becomes regular, its frequency diminishes, as I have seen in innumerable instances—for example, sinking below 100 from over 120, and to 72 from over 90. Measured by the sphygmomanometer (Basch's), the arterial pressure rises from 20, 30, and 40 mm. of the mercurial gauge. Hyperæmia of the liver frequently disappears, sometimes contracting one or two finger-breadths after a warm saline bath or gymnastic treatment; renal congestion is diminished and an increased diuresis follows upon scanty urination. The general well-being of the patient is correspondingly restored, his ability to walk increases, bright thoughts follow mental depression—in short, the entire organism is improved in all directions. In comparison with digitalis, the bath and gymnastic treatment have no hurtful action, and excel the former by the greater permanency of their results.

Exclusive of two contra indications to this treatment (1, aortic aneurism, and 2, marked arterio-sclerosis, moderate sclerosis is not a contra-indication for the bath treatment), I have seen no cases of cardiac disease—whether congenital or acquired, whether idiopathic, such as nervous or functional heart disease, weakened heart, fatty heart, myocarditic disease, up to the most complicated or most advanced cases of loss of compensation accompanying organic valvular disease—in which I have not seen at least temporary, if not more or less permanent, improvement.

In conclusion, attention is to be called to the fact that by means of these methods of treatment a considerable number of complications, or more properly speaking diseases, which stand in an etiological relation to cardiac disease can be improved. We have already referred to rheumatic disorders; in chronic renal disease the quantity of albumin is frequently markedly decreased by the bath treatment, occasionally even disappearing entirely (as was evidenced, among others, in two cases sent me by Dr. Herman Webber, of London). Furthermore, by the addition of gymnastics, combined with general massage, cases of diabetes have been improved. In pelvic plethora, combined with constipation, the use of the "Karlsbrunnen" spring water, or curative spring water, is joined to the methods of treatment referred to. The former mineral water resembles the "Elizabeth" spring of Homburg, the latter that of the "Ragoczy" of Kissingen, these two acting identically upon proper dilution.

In cases of gout the use of the "Ludwigsquelle" water, which contains lithia and bicarbonate of sodium, is followed by marked improvement.[1] It is hardly within the province of this paper to refer to the well-merited reputation which Bad-Nauheim has enjoyed for many years, for the treatment of neurasthenia and acute and chronic spinal cord lesions (to which Erb can so abundantly testify), and the resulting improvement and permanent relief brought about, in part by the treatment itself, as well as by the pure air, the invigorating influence of the surrounding woods, and dry sandy soil.

In conclusion, while recognizing the many advantages which a stay at Bad-Nauheim has for the patient, to wit—absence from home cares and responsibilities; the elevation, and the healthful and invigorating surroundings and tempting walks; the accuracy with which the strength and constitution of the different baths may be gauged (Nauheim by its multiplicity of springs of varying composition, being more than ordinarily favored); the small size of the village, enabling the physician to see his cases daily once or more times before, during (if necessary), and after the bath, at the residence of the patient or doctor—I none the less hope that for the great masses to whom absence from home is impossible the resort to the treatment by artificial means, as above described, may be had, and in the results confirm that by the use of carbonated thermal-saline baths, artificial as well as natural, as also, by the added use of gymnastics or mechano-therapeutics, the therapeutics of chronic heart disease have received important additions.

Bibliography.

Schott, A.: Action of Baths upon the Heart, Berlin. klin. Wochenschrift, 1880.

Schott, A.: Therapeutics of Chronic Heart Disease, Berlin. klin. Wochenschrift, 1885.

Schott, A.: Value of Gymnastics in the Diagnosis, Prognosis, and Treatment of Cardiac Disease. Zeitschrift für Therapie, 1885.

Schott, A., and Schott, Theo.: Nauheim's Bubbling and Sparkling Current Bath, Berlin klin. Wochenscrift, 1884.

Schott, Theo.: Contribution to Tonic Effect of Carbonated Thermal-saline Baths upon the Heart, Berlin. klin. Wochenscrift, 1883.

Schott, Theo.: Absorption through the Skin and its Value in the Physiological Action of Bath Treatment, Deutsche Medizinalzeitung, 1885.

Schott, Theo.: Pathology and Therapeutics of Angina Pectoris, Deutsche Medizinalzeitung, 1888.

Schott, Theo.: Monograph, Treatment of Chronic Heart Disease. Published by E. Grosser. Berlin, 1887.

Schott, Theo.: Chronic Disease of Heart-muscle and its Treatment, Transactions of Seventh Congress of Internal Medicine, 1888.

Whenever you are asked if you have heard of Dr. Blank you can always answer conscientiously in the affirmative if you have listened to the question.

[1] Among others, I refer to cases reported by Dr. H. N. Heineman, in an article upon "Treatment of Cardiac Disease," published in the Medical Record, April, 1890.

THE DIFFERENT PHYSIOLOGICAL AND THERAPEUTICAL PROPERTIES OF THE INDUCED CURRENTS OF ELECTRICITY,

With Especial Reference to Bipolar Faradization.[1]

By A. D. ROCKWELL, M.D.,

NEW YORK.

When Duchenne first called the attention of the profession to his method of localized electrization, it will be remembered that he practically excluded the galvanic current from consideration and confined his experiments almost entirely to the faradic. Remak, on the contrary, and many of his followers, advocated the galvanic current mainly, and for a time a fierce and unreasonable controversy was carried on between the two. In the light of our present knowledge of the different forms of electricity, it would appear little less than childish to champion one form to the exclusion of the others, since there are few diseases for which electricity is indicated where either current might not, under varying conditions, prove of service, and few methods of application where both currents may not be utilized. There is one method, however —the bipolar—which seems to be a special field for the faradic current, and in which the use of the galvanic current is seldom desirable.

By bipolar faradization is meant the localization of the faradic current by means of a single electrode, and the method is confined for the most part to internal treatment, *i.e.*, to the treatment of the vagina, the uterus, the rectum, and the bladder. In order, however, to any satisfactory appreciation of this subject, so much of electro-physics as bears directly upon the topic under consideration must at least be briefly reviewed. For a few moments, therefore, I bespeak your patient attention while I consider a number of facts in regard to the physical and physiological action of the induction coils, some of which appear to be a veritable *terra incognita*, even to those who make much use of electricity in medicine. It seems hardly necessary for me to state the simple fact, that most induction apparatuses are composed of two distinct and separate coils, one of which, called the primary, is made of thick and comparatively short wire, while the other and outer coil consists of wire that is thin and very long. Every possessor of a faradic battery appreciates also that there is a great difference in the character of the current proceeding from these coils. From the primary coil, as the electrodes are held in the hand, or placed on any portion of the external surface of the body, the current seems comparatively mild and inefficient, while the current from the secondary coil acts with far greater vigor. It not only more vigorously contracts muscle, but excites the cutaneous sensibility more acutely and the retina more vividly than the current from the primary coil. Apply, however, this current (primary coil) directly to the bladder, the rectum, the vagina, and especially to the involuntary muscular fibres of the uterus, and a very remarkable and interesting change is observed. It will be found that the current from the first helix acts with astonishing and most unexpected vigor on both sensory and motor parts. We are accustomed to say that the long thin wire yields a current of tension, and the short thick wire a current of quantity, and the more vigorous action of the second helix, when application is made externally, is commonly attributed to its superior tension; but the immediate and astounding change in the physiological effects of the two currents when applied directly to the internal organs of the body cannot be altogether explained in this way. Studying the phenomena of induction as produced by the initial voltaic current alone, without the intervention of magnetic force, Duchenne long ago conclusively proved that the difference in the length and thickness of the wires of the two helices did not alone explain the different action of the two currents on the sensibility.[1]

We may say that the currents have elective properties, or properties special to each, but the reciprocal relations between the nervous system and the action of electricity are not yet sufficiently understood to offer a satisfactory explanation of the interesting fact that in external local faradization the current of tension is the most effective, both as to objective and subjective symptoms, while in internal local faradization the so-called current of quantity acts most vigorously.

If instead of using the unipolar method—one pole internally and the other externally—we use a bipolar electrode, and in this way treat the vagina, the uterus, or the rectum, the current from the first helix will act with greatly increased vigor, an increase that cannot be altogether accounted for by the decreased resistance that is necessarily offered.

Although around the primary coil of an ordinary induction apparatus extra and distinct coils of finer wire up to the number of nine can be wound, the current from each successive coil becomes weaker and weaker, and experience has shown that for all practical purposes there is need for but two helices, or at most three, that yield the primary and secondary induced currents. This apparatus, we term the separate-coil apparatus, to distinguish it from another combination of helices, termed the continuous coil, and it is the current from these two distinct coils of the separate-coil apparatus to which reference is always made in the consideration of bipolar faradization. In this paper, however, I shall speak of bipolar faradization in connection only with the continuous coil helix, the efficiency of which over the other form is very great. While in the ordinary separate-coil machine with which Duchenne carried on his original series of experiments, and with which Apostoli and others practise the bipolar method, we are limited to two currents—the primary induced and the secondary pure induced—we obtain from the continuous apparatus many distinct manifestations of the induction current, four of which, at least, differ so widely in their physical, physiological, and therapeutical properties as to render it a matter of the utmost importance that we appreciate the fact that these currents cannot be applied indifferently in practice.[2]

Indeed, let one become but once convinced by personal experiment of the striking difference in the action of these four qualities of current on nerve and muscle, and he will hardly need the demonstration of clinical experience to convince him of their different therapeutical properties. The current from the primary, or first induction coil of the continuous coil apparatus corresponds very closely with the current from the primary coil of the separate or double-coil apparatus. The wire is short and thick, offering very little resistance to the passage of electricity, and so gives forth a current of little tension but large quantity, so called. When applied externally its appreciable influence is very slight. Its tension is so low that it overcomes with exceeding difficulty the resistance of the skin that must be encountered in all external applications. Its reflex as well as direct influence is therefore very slight, and it only moderately excites cutaneous sensibility.

It acts with considerable chemical power, readily burning steel or iron, as manifested by the bright deflagrating spark given forth. It will electroplate and electrolyze to a degree not attainable with the other induction coils either alone or in combination. The important practical point, however, in connection with this current, is the extraordinary increase in energy that is manifested when application is made to parts within the body. When applied to the rectum, the vagina, or the uterus, not only are the contractions pronounced, by a strength of current insufficient to produce any observable effect when applied

[1] Read before the New York County Medical Society, December 22, 1890.

[1] Localized Electrization, p. 29.

[2] A description of these coils will be found in Beard and Rockwell's Medical and Surgical Electricity, sixth edition, p. 292. William Wood & Co., Publishers.

externally, but may easily be made exceedingly painful. It may be here remarked that the testes also are far more acutely sensitive to this current than to the currents of pure induction.

Far more severe in its influence, however, is the second current of the series—that proceeding from the primary and second coils of the combination. Externally applied it is comparatively weak, although far stronger than the other; but when applied by the bipolar method to the uterus or vagina, its extraordinary action on motor and sensory parts will hardly be credited without actual demonstration of the fact. It is the easiest thing in the world to demonstrate this fact unwittingly, to the injury of the patient and to the operator's mortification. This is what may very readily occur. An intra-vaginal or intra-uterine application is being made with the current of tension. The patient complains of an uncomfortable sensation, which may or may not be due to the action of the current, and you shift the slide so as to exchange the current of great for one of lesser tension, which, according to all the experiences of external application, is infinitely weaker. Instantly a shock is occasioned, associated with the acutest pain and the most rigid contractions, that astonishes yourself and terrifies your patient, a mishap which I have known in more than one instance to excite neuralgia and other severe nervous symptoms of a distressing and more or less permanent character.

The advantage of these first two currents of the series over the last two, presently to be described, lies almost wholly in the effects of their internal application, and especially by the bipolar method. Both currents, and especially the current from the combination of the primary and second induction coils, act as powerful muscular tonics when applied internally, and are capable of exciting contractions of the involuntary muscular fibres of the uterus of every degree of severity. For this reason it is invaluable in cases of post-partum hemorrhage, and must, it seems to me, prove far superior to ergot for its suppression, since it acts instantaneously, and with a force just sufficient to accomplish the object desired.

In the ordinary form of subinvolution the current from the primary and second induction coil is invaluable. Bipolar intra-uterine applications persistently repeated, and with a strength no greater than can be readily borne by the patient, will afford results so gratifying that no one who has once had experience in the method will wish to treat a case of subinvolution without its aid. In regard to the action of the primary induction coil, in its external application, I have, I am confident, observed certain effects worthy of citation.

Some cases of hyperæsthesia of the scalp and face, and not a few cases of pain of a true neuralgic type and superficial in character, are more readily relieved by this current than by any proceeding from the pure induction coils unassociated with the battery influence.

It is a difficult thing to explain many of the phenomena of electrophysics. We can state them and utilize them, and so render them of immense service in the arts and sciences. Many of the phenomena of electricity as related to physiology are equally unexplainable, but none the less do we utilize them in therapeutics. Why the current from the primary induction coil should manifest a superiority as stated above, it is impossible to say, without we ascribe it to that combination of the battery and inductive influence which it possesses in such perfection. The third current of the series—that proceeding from the primary and the second and third induction coils—is of unique quality so far as relates to its effects when applied externally. Like the primary coil it will electroplate, but unlike it, it will not burn steel or iron. The peculiarity of this combination of the coils is that the maximum of power to contract the muscular tissue when the application is made through the medium of the skin is here obtained. Each additional coil that is now attached simply gives a decreasing contractile power. Why the maximum of current-strength is reached in the combination of the primary with the second and third induction coils it is difficult to say, excepting as we ascribe it to the law of harmony or polarization that is brought about by properly conditioning the magnetic centre of the helix, the several coils composing the helix, and the battery influence acting upon the coils. This current, possessing less quantity, but far greater tension than the two preceding already considered, exerts by no means the same influence over the contractions and sensibility of the vagina, uterus, rectum, or bladder; but its energy of action in this direction is greatly superior to the fourth current of the series next to be described. To emphasize the advantages in bipolar faradization of this combination of helices over the separate form, mark the distinct and varied effects obtained from the first named. The current from the primary coil, although very weak when applied externally, exerts very positive effects upon both the sensory and motor nerves when applied internally. From the primary and second induction coil we obtain a current the effects of which are tenfold greater, and the utmost caution is called for in its application. Adding the third induction coil, the application still being internal, the sensory and motor effects are yet marked, although far less severe than the current from the preceding coils, but greatly in excess of the fourth and last current of the series. This current, for the production of which all four coils are necessary, is in many respects the most important, and has a range of usefulness wider than the others. Its action is pre eminently tonic and sedative.

The currents from the two preceding combinations of coils are exceedingly harsh, and so keen and cutting in character as to be absolutely painful if carelessly administered. This current, on the contrary, is always agreeable, or at least not painful, even when administered to the point of endurance.

Therefore in the operation of general faradization, when we desire to obtain the best constitutional tonic effects that electricity is capable of giving, we resort to this combination of the coils. While we cannot satisfactorily explain all the complex action of electricity on the tissues as it influences animal nutrition, the same may be said of the action of almost every other remedy. Who can explain why arsenic feeds the nervous system, why quinine breaks an attack of chills and fever, or how opium produces sleep and relieves pain, and who has entered into the mysteries of anæsthesia? Electricity in passing through the body modifies the nameless and numberless phenomena every moment going on in the living tissue, and as a resultant of its complex physical, chemical, and physiological action there is improved nutrition and increased development and growth.

For the production of such effects experience amply testifies to the superiority of the current under consideration to any of the others. For the relief, therefore, of that great army of symptoms that are so familiar and perplexing to those who have much to do with neurasthenic cases, there is nothing to be compared with it. Even the galvanic current, by the method of central galvanization, so important in its direct effects upon the central nervous system, falls short of the therapeutic results that follow through applications of general faradization.

When persistent failure follows endeavors along this line of electrization, the cause of failure must be attributed to hasty and faulty methods of administration. Even more marked is the difference in the action of this current of tension and the current of quantity in bipolar faradization of the rectum, vagina, and uterus. Its comparatively mild action on the motor and sensory nerves, coupled with its great power of overcoming resistance, render it, *par excellence*, the current for the relief of pain.

It is no exaggeration to say that in many cases of pain associated with uterine disorder it acts with almost magical effect. Herein lies the remarkableness of the phenomena associated with the action of the different induction currents—the apparently elective properties residing

in them, for, as indicated before, the difference in mere tension and quantity fails to offer an altogether satisfactory explanation.

While the currents from the first two coils act but feebly when applied externally, but with astonishing vigor when applied internally, the current of tension from the whole combination of coils acts with a vigor that is felt through all portions of the system when applied externally, yet when applied to the uterus through a bipolar electrode its action is but slightly felt, and is without disagreeable sensation. So tolerant, indeed, are the internal muscular organs of the body to the induced currents of tension that it is frequently a question of how to obtain a current of sufficient power from the batteries in ordinary use. Batteries that have been long in use and that are illy kept, while perhaps yielding a current of tension of sufficient strength for localized applications externally, are insufficient for bipolar applications. Even if at first the current is appreciably felt in the uterus, the sensitiveness soon subsides although its strength may have been very much increased, and both physician and patient may be in doubt as to whether the current is being received at all.

This phenomenon becomes prominently apparent in hysterical cases with which is associated excessive hyperæsthesia of the abdomen, and it has been no uncommon thing in my observation to treat women with the current of tension for the relief of the most acute surface abdominal hyperæsthesiæ, and at the close of a single *séance* to find the abdomen insusceptible to any ordinary manipulation. Far different is it with the current of quantity. Tolerance is not established, and what is painful in the beginning continues more or less painful throughout the treatment, and it frequently becomes necessary to decrease rather than to increase the current strength. To avoid the disagreeable shock, of which the patient invariably complains even when beginning the application with the minimum of current strength, a rheostat should be intercalated.

The main points that have been considered in this presentation may be thus summed up:

1. From the continuous-coil apparatus, owing to its combination of helices, the wires of which differ in thickness and length, proceed four qualities of current that vary in a most remarkable degree in all the properties of electricity—physical, physiological, and therapeutical.

2. That the variation is observed most markedly when applications are made internally to the vagina, uterus, rectum, or bladder, by the bipolar method.

3. From the primary or first induction coil we obtain a current of quantity that is barely perceptible externally, but internally, and especially by the bipolar method, acts with greatly increased efficiency.

4. From the combination of the primary and secondary induction coils we obtain a current of greater tension, but which still acts mildly when applied externally. Applied internally, however, its effects are far greater than the first coil, both in exciting the sensibility and contractility, and the utmost caution must be exercised in its use. In the same degree, also, it acts upon the vagina, rectum, bladder, and testes. This current is especially applicable in the treatment of enlargements of the uterus due to subinvolution, but is of little or no value when the enlargement is due to fibrous tissue. It is of especial value in post-partum hemorrhage, and from its power to excite the sensibility and contractility of the bladder and rectum it may be used with good effect when these organs are anæsthetic or suffer from diminished or lost contractility.

5. From a combination of the first, second, and third induction coils we obtain the maximum of power to excite both sensibility and contractility on the external surface of the body, each additional coil simply giving a decreasing power over sensation and contraction. Applied internally, however, it acts far less powerfully than either of the two previously named currents; but in the ordinary forms of paralysis of voluntary muscles it will more readily call forth contractions than the current from any other combination of coils.

6. From the first, second, third, and fourth induction coils combined, a current is obtained, differing from and superior to all the others in its sedative and general tonic effect upon the system at large. It neither acts upon the sensibility nor muscular contractility when applied externally as does the third current of the series, nor with a tenth or even a twentieth part of the acuteness when applied internally, that characterizes the second current of the series. For the purposes of general faradization, however, it is the only proper current to use, and for applications to the vagina and uterus, for the relief of many forms of pain, it possesses properties that are invaluable.

In the foregoing discussion I am fully conscious of having indulged in some reiteration, but it seemed to me necessary to a full appreciation of the important facts that have been stated.

To those who look upon electricity with indifference, and would relegate its use to ignorant attendants to be used as a placebo, instead of intelligently and conscientiously developing the subject for themselves, the statements here made may seem of little importance.

For those, however, who are more hospitable in thought, and will take the pains to master the principles of physics and the technique of electrical applications, I confidently predict a plentiful harvest of good results.

Progress of Medical Science.

The Use of Forceps in Breech Cases.—Dr. Fürst, of Graz, strongly recommends the use of forceps in delayed breech cases, in preference to the fillet or blunt hook. The forceps should have a large cephalic curve, and the points of the blades should come close together. Traction should be made only during the pains, and then the force of uterine contraction and the pressure of the soft parts will tend to prevent slipping of the blades. The instrument is used, therefore, simply to supplement an inefficient driving force.—*Archiv für Gynäkologie.*

Experimental Investigations with Tuberculous Milk.—Dr. Bang, of Copenhagen, has published in the *Deutsche Zeitschrift für Thiermedicin* some researches on tuberculous milk. From fifteen to thirty minims of milk from twenty-eight tuberculous cows with healthy udders were injected into the abdominal cavities of as many rabbits. The milk of only two cows proved infectious. The milk of eight highly tuberculous women produced no evidences of tuberculosis. Abscesses which occurred at the site of inoculation or in the abdominal cavity were not tubercular. Sweet and sour cream, obtained from tuberculous milk containing many bacilli proved virulent. Butter made from the milk (containing many bacilli) of a cow with advanced tuberculosis of the udder, injected into the peritoneum, produced severe tuberculosis. Feeding rabbits with such butter was followed by a like result. The use of butter obtained from tuberculous animals need not therefore be regarded as especially dangerous. The secretion of milk in cows with advanced tuberculosis—at best but slight, is permitted to cease entirely. Besides, such cows rarely supply tuberculous milk, from which by centrifugal action the bacilli are largely removed. Gerhardt has demonstrated that the danger of infection is in direct proportion to the number of bacilli. These experiments emphasize the necessity of paying careful attention to tuberculosis of the udder. Further investigation demonstrated that the bacilli or their spores are not deprived of their virulence by exposure to a temperature of 176° F., but that for this a temperature of 185° F. seems to suffice. A temperature of 212° F. is absolutely destructive of the bacilli. This statement as to the degree of heat applies to the tuberculous fluid, not to the bath. Two rabbits, fed with tuberculous

milk heated to 140°–149° F. showed signs of mild tuberculosis, while of six given the milk unboiled, all succumbed to typical tuberculosis. Rabbits which received milk heated to 158–167° F. remained absolutely free from infection. A rabbit, fed for seventeen days with unboiled tuberculous milk, which died accidentally, showed only tubercles in the lymphatic glands above the fauces—clinically the primary site of tuberculosis in cattle and swine. Dr. Bang considers it probable that a large proportion of tubercular (scrofulous) affections of the cervical glands in children owe their infection to tuberculous milk.

Scarlatina without Pyrexia.—Dr. Wertheimer reports a case of scarlatina occurring in a child, seven years of age, in whom, though the eruption was well marked, and the tonsils and tongue presented their characteristic appearance, there was absolutely no pyrexia either morning or evening, the highest point reached being 99.6° F. The pulse however, was rapid, being from 116 to 120 during the first three days. There was no albuminuria; desquamation began on the ninth day. He also mentions a second case, occurring in a child of about the same age, where, though all the distinctive signs of scarlatina were present, the only time there was any abnormal temperature was the evening of the second day; then it was 100.6° F. Here, too, there was marked rapidity of pulse, and he suggests that this is probably an important sign in diagnosing the rare cases of apyrexial scarlatina. His opinion is confirmed by Dr. Betz, who recently observed two apyrexial cases where the pulse was also very rapid.—*Münchener Medicinische Wochenschrift.*

Treatment of Tinea Tonsurans.—Dr. Simpson recommends the following treatment for ringworm of the scalp and body: Cut the hair short and wash the scalp well with tincture of green soap, and then apply the following solution with a camel's-hair brush:

℞. Hydrargyri chlorid. corrosiv ..... gr. j.
Collodii ..... ʒ j.
M.

This treatment may be recommended for three reasons: 1. The corrosive sublimate destroys the fungi. 2. The ether of the collodion penetrates to the root of the hair, conveying the corrosive sublimate to the seat of the disease. 3. The film formed by the collodion shuts off the supply of oxygen to the fungi, and thus helps to destroy them.

Cold Applications for the Relief of Palpitation.—Dr. Gingeot advises the use of cold applications for the relief of palpitation, more particularly of that due to nervousness. As to the method of applying cold, the simplest plan of all is to apply a wet sponge over the heart in the morning before dressing. At night, when in bed, the patient or an assistant may put a cold compress over the heart, well covered with dry bandages, to retain moisture and prevent any wetting of the clothing. When this compress is warm, the patient may remove it, and will probably fall asleep. There are objections to the ice-bag, one being the condensation of insensible perspiration upon the surface of the skin. The ether spray is a simple and convenient method of refrigeration. With proper instruction as to necessary precautions in the use of ether, the patient can apply cold in this way at any hour of the day or night. Palpitation of purely nervous origin seldom fails to be greatly benefited by the application of cold; and a certain success often follows its use in cases of palpitation due to organic disease.—*Revue générale de Clinique et de Thérapeutique.*

Faucial and Pharyngeal Tenesmus.—Mr. Lennox Browne proposes to apply the term "tenesmus" to the fauces and pharynx in those cases in which there is a continual inclination to void or to swallow an imaginary foreign body, accompanied by more or less cough, straining, and pain, either after or independent of functional exercise of the voice, with expectoration or welling up of small quantities of mucus, and occasionally, more especially in rising from sleep, by the discharge of small quantities of blood. Tenesmus would, in fact, not only apply to the condition now known as "globus hystericus," but would embrace all those numerous and various subjective symptoms which occur in the throat, and have not until recently been acknowledged to have other than a neurotic basis. The causes are mainly three: 1. Hypertrophy of the lymphoid tissue at the base of the tongue and the lingual tonsil. 2. Varix of the vessels in the same situation, the two constituting a condition called by him "throat piles;" and 3. A congestion, fulness, sometimes even obvious enlargement, of the thyroid gland. Functionally, the physical conditions causing throat tenesmus are mainly due to over-use, or wrong use of the voice, and to bolting the food; but the underlying constitutional causes are many, the principal one being a general varicose diathesis, shown by the occurrence of rectal piles, varicocele, varix of lower limbs, and cold feet. It is more frequent in women than men, and often appears at the menopause. In many cases there is concurrent relaxation of the uvula, removal of which fails to cure the patient unless the other conditions are recognized and concurrently treated. It is also seen in connection with, and, as was believed, as a result of, nasal stenosis. Treatment consists in destruction by electric cautery of the overgrown tissue and enlarged veins, with correction of the faults of health and of local function. Occasionally the hypertrophies are of sufficient size to enable them to be removed by a snare. Astringents or iodine fail to give permanent relief in any but the mildest cases.—*Journal of Laryngology and Rhinology.*

The Treatment of Cold Abscess.—Dr. Caird describes his method of treatment of cold abscesses as follows: The patient having been chloroformed and the skin shaved, and carefully purified with carbolic lotion (1 in 20), the abscess is opened by a small incision, into which the finger is at once passed. The whole of the wall which is accessible is now scraped bare with the finger-nail. It is easy to feel the pyogenic membrane peeling off in large flakes and shreds, and the finger readily recognizes where a perfectly raw surface is left. If the entire extent of the wall is not accessible, a second incision is made, the first opening is plugged, and from the second aperture the remainder of the cavity is now scraped well. It is advisable not to allow any pus to escape, since one can more easily strip off the lining membrane and judge of the thoroughness of the scraping when the abscess is distended. With the finger-nail the granulation tissue may be scraped away with impunity from off important structures, and the finger-pulp tells exactly how much is being done, and how much has to be done, in this respect differing widely from the sharp spoon, which cannot be used with the same freedom or accuracy. The pus is now allowed to escape, and the cavity is thoroughly washed out with boiled boracic lotion, warm, until the fluid streams away clear and transparent. Very short tubes may now be inserted, if need be, and a couple of sutures should be put in the wound, but not tightened up. The dressing consists of a large mass of moist gauze wrung out of carbolic lotion, and over that a large corrosive wool mass, secured in position by carefully applied bandages of Douret. Over all a piece of elastic webbing is carried, and the patient kept absolutely quiet in bed by means of suitable splints. On the following day the tubes may be removed, and the stitches tightened up. Future dressings are determined by the rules common to antiseptic surgery. Appended to the paper are the records of four cases, in which the method above described was put in practice.—*Edinburgh Medical Journal.*

Progressive Intestinal Atrophy.—At a recent meeting of the Society of Medicine of Berlin, Dr. Jürgens read a communication on a case of this kind. The patient had

suffered from general weakness, vomiting, and a painful sensation in the abdomen. There were marked motor disturbances in the legs, and the temperature remained constantly very low—usually under 97°, rarely 98.4° F. There was general anæmia and severe vomiting, so that intestinal obstruction was suspected, and rendered probable by an abdominal tumor being felt on palpation. At the necropsy the whole intestinal canal was of a dark reddish brown color, the upper part of the small gut greatly dilated, and the walls thickened by œdema. The brown coloration was most pronounced in the duodenum. The whole condition has been described under the name of hæmochromatosis universalis. Numerous diverticula were found in the small intestine. These result from impairment of the muscular coat, the wall giving way to the internal pressure, and sacculations forming which prevent onward movements of the contents and produce symptoms of ileus. This usually occurs in consequence of alcoholism; and in this case such a history was present. Degeneration of the muscular fibre of the gut, as well as of the cells of nerve-plexuses, is also observed. Nerve-endings frequently show fibrous transformation, almost always the result of degeneration of the sympathetic. Disturbances of the cardiac nutrition occur through paresis of the intestine. The liver is likewise brown, and has so much pigment as to suggest melanæmia. In discussing the case, Professor Leyden said that clinically it was one of progressive cachexia and weakness; the muscles were quite soft, and their electric irritability deviated much from the normal. This paralytic-like condition was ascribed to general cachexia.—*Berliner Klinische Wochenschrift.*

An Acetone-yielding Substance in Normal Urine.—Dr. Taniguti shows that a substance is present in normal urine which yields acetone when the urine is distilled with sulphuric acid. At least 10 parts of concentrated sulphuric acid should be added to 300 parts of urine, as on using less than this amount of sulphuric acid all the acetone does not come off on distillation. The whole distillate is made alkaline with sodium hydroxide and a solution of iodine in potassic iodide added. After twenty-four hours the precipitated iodoform is collected on a weighed filter, dried, and weighed. From the amount of iodoform thus obtained, the quantity of acetone is calculated.—*Zeitschrift für Physiologische Chemie.*

Santoninoxime as a Vermifuge.—Santoninoxime is obtained by heating five parts of santonin with four parts of chlorhydrate of hydroxylamine and from three to four parts of chalk, in the presence of alcohol. The product is eighty for each one hundred parts by weight of santonin employed. The substance consists of silky needle like crystals, white, insoluble in cold water, sparingly soluble in boiling water, soluble in alcohol and acetic acid. The crystals melt at 420° F., and rotate polarized light to the left. It has been praised as a vermifuge, and may be used instead of santonin. It can be administered in doses two or three times larger than the latter substance, without causing accident.—*Journal de Médecine de Paris.*

Stomach Washing in very Young Children.—In order to discover the therapeutic value of lavage of the stomach in very young children, Dr. Froitzky tabulated the results obtained in sixty five babies of from two weeks to four months of age. A Nélaton sound was used, with a glass funnel, and the stomach washed out with a three per cent. solution of salicylate of soda, in water which had previously been boiled. At least two washings were required to entirely stop vomiting. The treatment was well borne by the children. The author concludes as follows: 1. Lavage of the stomach is a valuable means of stopping the development of gastro-intestinal inflammation, especially if begun early. 2. The most favorable results are obtained in cases of dyspepsia without fever, especially if the stomach alone is at fault; the improvement is slower in gastro intestinal affections, and still less marked in purely intestinal trouble. 3. It is as useful in acute gastro-intestinal disease as in summer diarrhœa, but is not in itself sufficient, and must be aided by other therapeutic measures. 4. Chronic forms of gastro-intestinal disturbance are improved, but treatment must also be supplemented by other means.

Blue Milk.—Dr. Behr gives the results of a series of experiments on the bacillus of blue milk, in which the power of color production was lost. Observations have already been made in connection with the loss of color-producing power of the bacillus prodigiosus and bacillus pyocyaneus, and he refers to Dr. Heim's observation on the same question in connection with the bacillus of blue milk. He made his experiments with three sets of blue milk bacillus, and, although there was nothing peculiar about the plate cultivations, he found that one of them produced no color in sterilized milk, in neutralized agar, and in neutralized gelatine, even in very old cultivations. That it was the specific bacillus was proved by the fact that at a later period, in other cultivations, the characteristic color-reaction was obtained. In all cases it still retained its morphological peculiarities, it was actively motile, and flagella could be well demonstrated. Dr. Behr suggests that this is another proof that bacilli may for a time lose their specific characteristics; and although we are as yet unable to determine the exact conditions under which these characteristics are lost, such isolated facts enable us to hope that in time we may be able to modify the conditions under which different organisms exist, and that we may at will cause specific micro-organisms to lose their color, enzyme, and toxime-producing powers.—*Centralblatt für Bakteriologie.*

Cocoanut-Water as a Culture-Fluid.—Dr. George M. Sternberg, writing in the *Medical News*, of September 13, 1890, says that he has used the juice of the unripe cocoanut as a culture-fluid, and found it very satisfactory. The idea occurred to him during a visit to Cuba that this fluid might be a useful culture-medium for bacteria, and upon making the experiment I found that various species grew in it most luxuriantly. As it is contained in a germ-proof receptacle no sterilization of the fluid is required when it is transferred with proper precautions to sterilized test-tubes, or is drawn directly from the nut into the little flask with a long and slender neck, which I am in the habit of using for fluid-cultures. In these it may be preserved indefinitely, remaining perfectly transparent and ready for use. Heating the fluid causes a slight precipitate. In the investigations which I have made in Havana during the past two years I used this fluid very extensively and found it a great convenience to have a sterile culture fluid always at hand ready for use at a moment's notice. Moreover, it has certain special advantages for the study of the physiological characters of various bacteria and for the differentiation of species. It contains in solution about four per cent. of glucose, in addition to vegetable albumin and salts, which alone would make it a useful nutrient medium. Certain micro-organisms multiply in it without appropriating the glucose, while others split this up, producing an abundant evolution of carbonic acid, and giving to the fluid a very acid reaction. As obtained from the nut it has a slightly acid reaction, which makes it unsuitable as a culture-medium for certain pathogenic bacteria, but when desired it is a simple matter to neutralize it. For a large number of species of bacteria and for the saccharomycetes it constitutes a very favorable medium.

To Disguise the Taste of Quinine.—The following is recommended by the *Pharmaceutical Record* as an excellent menstruum in which to administer quinine in order to disguise its taste: Mass licorice, hot water, glycerine, each 20 parts. Dissolve and cool, then add alcohol 10 parts, and water 10 parts, or enough to make 80 parts in all. For each 3 grains of quinine sulphate in powder, or shaken with water, add 1 fluid drachm (or small teaspoonful) of the above preparation.

The Antagonism Between Iodine and Salicylates as Regards Exudations and Transudations.—From a study of this subject Drs. Rosenbach and Pohl have reached the following conclusions: 1. Salicyl compounds given internally pass not only into the urine, but into the fluids of serous cavities, also joints, peritoneum, and pleura. They appear in all transudations due to stasis, and also in purulent exudations, though in smaller quantities. But they are not to be found in the saliva, the intestinal contents, nor the bile. In particular, sodium salicylate cannot be found in the stomach, when, after its introduction into the rectum, it can be shown to be present in the urine. 2. Iodine preparations after internal or subcutaneous application pass into the urine and saliva; like the above, they are to be found in transudations into the skin, abdomen, and pleura in various diseases, but, unlike them, they never pass into serous or purulent exudations. Moreover, iodine, though freely given, is never to be found in the synovial fluids or membranes, whether in health or disease. 3. Sodium salicylate injected into joints or serous cavities, when transudations or serous or purulent exudations are present, is always to be found, after a short time, in the urine. 4. The same is true for iodine. 5. The fundamental difference, then, between iodine and salicyl is that the latter, however given, is found in all serous cavities and in the urine. Whereas iodine, given by the mouth in the usual doses, passes only into transudations, but never into joint cavities, whether normal or inflamed. The therapeutic consequences are self-evident.—*Berliner Klinische Wochenschrift.*

Psorospermosis.—At a recent meeting of the Medical Society of Christiania, Dr. Bœck showed a patient suffering from psorospermosis, which had existed for sixteen years. Papules, varying in size, were scattered, to a greater or lesser extent, over the whole of the body. This case was exactly similar to that shown at the Dermatological Congress at Paris by Darier, which he named *psorospermose folliculaire végétante.* In the sections which were exhibited, numerous encysted coccidia were observed situated in the epidermis, particularly in the stratum granulosum. The epidermis had become loosened from the papillary body, where the process was much developed. The papillæ were ramified and elongated. At a meeting held on November 20, 1889, two sons of the above-mentioned patient were shown by Dr. Bœck, both of whom suffered from this affection, which was situated on the same parts of the body as in the case of their father. Pyrogallic acid, used as an ointment, produced a favorable result. No applications had been used in the other case.—*Monatsschrift für Praktische Dermatologie.*

A Case of Tetanus of the Uterus Treated by Antipyrin.—Dr. Wright reports this case, treated in a lying-in hospital in Toronto. The patient was a primipara, aged twenty-two, of sedentary habits. Always been well, with the exception of leucorrhœal discharges for the last two years. The pelvic outlet was found to be slightly narrowed; pregnancy normal. First stage of labor prolonged, owing to rigidity of os and premature rupture of membranes. From these causes the duration of the first stage extended over twenty-four hours, although three fifteen grain doses of chloral hydrate were given to relax the os. The head then descended rapidly half down the vaginal canal, and progress again became slow. At the end of forty hours the head was well down in the perineum, but the rigidity of external parts rendered the pains ineffectual. Symptoms of exhaustion then began to appear. The pains became shorter and more frequent, while the pulse increased to over 100, and the patient complained of nausea and thirst. Before very long it became impossible to make out distinct intervals between the pains, and on examination the uterus was found retracted, and in a state of tonic contraction. Dr. Wright ordered three fifteen-grain doses of antipyrin, one every quarter of an hour. Before the second dose had been given patient felt easier. After the forty-five grains had been taken the pains were about three minutes apart, and the tetanic contractions had disappeared. The head, however, being very large in proportion to the outlet, was delivered with forceps under chloroform. The uterus took three-quarters of an hour to contract properly, after the administration of ergot in drachm doses. Dr. Wright remarks that the results obtained from antipyrin in this case would seem to justify its early use in uterine tetanus, before the muscle-fibres and nerve-centres are exhausted by prolonged tonic contractions. It seems probable that the drug acts directly on the nerve-cells in the parturient centre in the lumbar cord, lessening their irritability.—*Canadian Practitioner.*

Oxalemia.—Dr. Neidert records two cases, the symptoms of which he associates with existing oxaluria and, to use his designation, oxalemia. In both cases one of the parents was diabetic. The nervous symptoms were the most prominent. There occurred paroxysms attended with severe cardiac palpitation—especially at night, a distressing sense of oppression, and asthmatic seizures. Restlessness was marked. There was tremor, choreiform movements, and a staggering gait. Nervous dyspepsia made an additional complication. An attack of syncope was followed by increase of already excessive thirst, and by failure of appetite. Frequent examinations of the urine, which was passed in large amounts, failed to reveal the presence of sugar; but oxalate of lime was found in amounts out of all proportion to the amount and kind of food taken. There was loss of flesh and strength. Investigation permitted the exclusion of acute or chronic disease of the stomach. According to Neidert, in oxalemia there is an abnormal production of oxalic acid from the tissues of the body, owing to alterations in the central nervous system.—*Münchener Medicinische Wochenschrift.*

Microbes and Specifics.—Professor Rosenbach, of Breslau, discusses the question how specifics operate against micro-organisms which have harbored in the body and lighted up certain infectious diseases. They do so, not because they poison the bacteria, but because the medicament used robs the microbes of the power of reproduction, deteriorates their feeding-ground so much that they cease to multiply and form toxines, and thus lose their unlimited power of causing and maintaining destructive processes in the body to which they have gained admittance. Their reproductive power depends on an unlimited supply of nourishing material. They may remain living, and after a certain time—whether they have preserved their original form or passed into more permanent forms, such as spores, which can exist under most unfavorable outward conditions—they can be inoculated into new nourishing media, and reproduce themselves if the media, like artificial ones, have no active, living protective power; but for the animal and human body they have become temporarily innocuous, and will be, after longer or shorter time, eliminated by the regeneration of the tissues. If the medicament is too weak, or the number of the micro-organisms, in proportion to the regenerative powers of the body, too great, then a relapse occurs—an event which demonstrates most strikingly that the invaders were not slain, but only reduced to a state of sterility, of checked development, and that immediately after the extinction of the operation of the medicament used, they were ready to begin their reproductive process once more.—*Berliner Klinische Wochenschrift.*

The Extirpation of Carcinoma of the Rectum in Two Sittings.—According to Dr. L. Rehn, the sacral method of Kraske enables us to remove carcinoma of the rectum situated high up. Hemorrhage can be easily controlled and a normal sphincter can be retained. The advantages of the operation are well known, but the mortality is great, much more than the twenty per cent. now published would lead us to believe. The author lost three

of his first five patients. In two cases the circular suture was complicated by the formation of a fecal phlegmon. A third patient died in collapse twelve hours after operation. The first two cases were operated upon strictly after Kraske's method. Then the author in four cases made use of the osteoplastic resection by a preliminary operative procedure; incision on the left side of the sacrum and ilium, transverse division of the sacrum between third and fourth sacral openings; opening of the flap of the bone and soft parts to the right. His two last cases were operated in two sittings, and had a more favorable course. In his sixth case the patient contracted an empyema following an attack of influenza at a time when the artificial anus should have closed. The dangers of the operation are collapse and infection. The preliminary operation, as soon as we decide to transversely divide the sacrum, is of great moment for the patient. If the para-sacral incision is sufficient we should choose this as the most saving for the patient. It seems that some have overlooked the fact that Kraske, in his preliminary studies, established to his satisfaction that the parasacral incision gives in a remarkable manner room for operating. It remains Kraske's operation whether we operate simply by incision of soft parts or the resection of bone, partial or complete. The manner of operating is that the growth should be removed, not from below, but from behind and above. The chief danger is infection from fæces, the circular suture holds in the rarest cases only, the rectum bursts generally behind. As precautions against secondary infection we use, 1, iodoform gauze tampon (not always sufficient); 2, avoidance of the circular suture, the rectum is allowed to remain open in its posterior periphery and is split toward the anus; 3, colotomy after Schede; 4, Heinecke's measure. The author thinks that the above dangers may be avoided by two operations: preliminary operation, exposure of and loosening of the new-growth, thereby avoiding any wound of the gut. The central portion of the gut is made movable preliminary to subsequent suture; careful arrest of hemorrhage. The wound cavity is loosely tamponaded. The loosened gut is brought to the level of the external skin by passing strips of iodoform gauze underneath it. The patient receives opium for four days, then laxatives and injections are used. If it should now be shown that insufficient evacuation of fæces is caused by stricture, the intestine may be incised without danger above the stricture. About ten days after the first operation the gut is circularly closed, and after drains are put in the wound is closed. By this time the wound has become considerably smaller. A failure of the intestinal suture at this time will not be of any danger to the patient. In case the gut should tear while loosening the growth in the first step, then it is advisable to remove the growth at once; the central piece of gut is attached to the skin at the lower angle of the wound. The circular suture of the gut follows in a second operation.—*Annals of Surgery.*

Tubercular Endocarditis.—Dr. Tripier has observed a case of generalized miliary tuberculosis in which he found a tuberculous nodule on the under surface of the mitral valve, on the upper surface of which was an acute endocarditis. This endocarditis presented in places an exudate which was found to contain similar elements to the tuberculous nodule, thus establishing the similar nature of these products. This is supposed to be the first case in which a tubercular nodule has been found in the heart. It establishes the idea of the generalization of tuberculosis by way of the vascular system, an idea which has hitherto derived its chief support from the presence of tuberculous lesions along the veins and lymphatics, and the finding of bacilli within the circulatory apparatus. It also establishes the existence of acute tubercular endocarditis, which is known to be almost constantly present on the mitral valve in acute miliary tuberculosis. It is possible that this sort of acute inflammation may be the cause of the coexistence which has at times been noted of tuberculosis with an old cardiac lesion. These facts, however, will not suffice to overthrow the idea of an antagonism between heart disease and pulmonary tuberculosis. It would seem to be the case that, when there occurs a primary simultaneous localization of the disease in the heart and lungs, the lesions rapidly assume a greatly preponderating importance in one of the two organs. The pulmonary lesions then oppose themselves to the development of the cardiac affection or *vice versa.*—*Lyon Médical.*

Source and Significance of Albumin in the Urine.—From a number of observations on this subject, Dr. W. H. Porter (*The Post-Graduate*, January, 1891) has reached the following conclusions: First. That the albumin found in the urine, excepting that which occurs in the early stages of an acute exudative or diffuse nephritis, is a derived albumin and not serum-albumin. Second. In the early stage of an acute exudative or diffuse nephritis the albumin comes directly from the blood vessels, due to the inflammatory alteration in their walls, and is of the serum-albumin type. Third. That later in acute exudative or diffuse nephritis, when the vascular walls have partially recovered from the primary inflammatory damage, the albumin becomes more abundant in quantity, but now it is of the derived albumin type, and has been excreted by the damaged epithelial cells lining the uriniferous tubules. Fourth. That in all conditions, excepting the acute exudative or diffuse nephritis, where albumin is found in the urine, it is due to changes in the epithelium by which it is unable to do the work properly and excrete, or allows a derived form of albumin to pass through into the urine. Fifth. That the quantity of albumin contained in the urine is always in direct proportion to the amount of retrograde change in the epithelial cells. Sixth. That this retrograde change in the epithelial cells is secondary to an impaired nutritive condition at large, together with an overworked state of the renal cells, without a compensatory nutrition being sustained. Seventh. Viewed in this light, if we direct our treatment to improving the general nutrition of the system, and at the same time decrease the amount of work to be accomplished by the kidneys, we shall see many cases of complete recovery which must otherwise remain cases of albuminuria.

The Treatment of Whooping-cough by Cold Baths.—At a recent meeting of the Medical Society of Rouen, Dr. Bataille drew attention to serious forms of whooping cough, and their treatment with cold affusion, in those forms where the prognosis seems poor, either by reason of repeated vomiting, or from the complication with broncho pneumonia. The patients, from one to seven years of age, had previously been treated with antispasmodics and change of air. Three or four times a day, according to the severity of the case, the infants were placed naked in a tub, and a pailful of water at about 57° F. was poured over them. Three children, of the respective ages of one, six, and seven years, attacked with broncho-pneumonia in the course of whooping-cough, were thus treated, and after treatment from eight to sixteen days were cured. The affusion was not, however, rigorously followed up during the whole period, but was interrupted occasionally for twenty four or forty-eight hours, according to signs of amendment. These affusions have the advantage of not depressing, but produce a salutary stimulation of the respiratory muscles.—*L'Union Médicale.*

A Visible Heart.—The case is reported of a child, about a fortnight old, in whom the sternum and costal cartilages are imperfectly developed. The heart is seen most distinctly through the thin cutaneous wall of the chest. The shape and size of the auricles and ventricles, with the filling of the auricles with blood, are quite as visible for all practical purposes as if the organ were completely exposed to view.

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & Co., Nos. 56 and 58 Lafayette Place.

New York, February 14, 1891.

THE SIGNS OF SANITY AND INSANITY.

AN editorial with this title appeared in the New York *Evening Sun*, January 17, 1891, relative to the recent decisions in regard to Dougherty and Stephani. Dougherty has been found guilty of murder in the second degree, and will be sent to the Criminal Insane Asylum at Auburn. Nothing is harder to define in clear and simple terms than insanity. Not less perplexing is the question of when an insane man becomes sane again. Churchill's definition is here as good as any. He says: "An insane person may be regarded as having recovered his sanity when a reference to the exciting cause produces no recurrence of his former delusions."

Next to insanity itself, the saddest thing in the world is the way in which the public regard it. The grossest ignorance still prevails concerning mental disease, for superstitions concerning the more complex and finer things are the last to be given up. While the idea of demoniac possession has in a measure departed, the notion of disgrace attendant on such possession still remains. To know what insanity really is might materially abate the public horror of it, and raise mental alienation to the social status of small-pox, typhoid fever, and measles. The late Dr. George M. Beard once read an important paper on "The Symptoms of Sanity and the Diagnosis of Insanity." This paper, he stated, had a twofold object: First, to show what a sane man is, in order to answer the question, "How can you tell a sane man when you see him?" The second object of the paper was to reconstruct the subject of insanity on the basis of evolution, to carry evolution into psychology, the law of evolution being the greatest generalization the human mind has ever reached. According to Dr. Beard the symptoms of sanity are as follows:

I. Activity of the instinct of self-preservation.
II. Adaptation to environment.
III. Correspondence of character to age and station.
IV. Rememberable consciousness.

Whoever responds to all these tests is sane, no matter how ill in body or mind. He who does not respond to these tests is an insane man, no matter how well he may be in body. It is possible for the mind to be impaired to a degree that is not necessarily serious, as in hysteria, hypochondria, neurasthenia, etc. But sufferers from these disorders usually retain activity of the instinct of self-preservation, adaptation to environment, correspondence of character to age and station, and rememberable consciousness.

Symptoms of mental disease begin from above downward, beginning with the tips of the branches and blossoms. The symptoms of insanity appear in the following order, the later acquisitions first disappearing and then the earlier:

I. There is a decline in manners, that is, minor morals; then more extensive moral decline.
II. Decline in the power of originating thought.
III. Decline in the power of acquiring thought.
IV. Decline in the memory of recent events.
V. Decline in the memory of old events.

Thus it will be perceived that there can be no insanity without moral decline. The law of proportion, which is the law of right conduct as well as of beauty, ceases to exist. Fact, as a point of view, gives way to mirage and dream. And between dreams and sane living there is a great gulf fixed.

Insanity has been defined as "a disorder in the power of adjustment of the organism to its environment." It is the manifestation in speech or conduct of disease or defect of brain. So called mental diseases are simply groups of symptoms. One of the symptoms of a diseased body is mental alienation. Whatever the real nature of mind may be, it is so intimately allied to organism as to be practically inseparable from it during life. The world confesses that it knows not the construction and nature of spirit. But physical facts abound, and a fair knowledge of inseparable mind and body—inseparable while life holds matter together—and of their unity of expression may be had for the earnest seeking. When the signs of sanity and of insanity are more a part of everyday education, manifestations in speech or conduct of disease, or defect of brain, will cease to be a disgrace. Then the insane will no longer be an outcast, but the recipient of best intelligence and tenderest care, like the weakling of a family upon whom is bestowed infinite attention, and to whom is given the choice of chances.

A NEW DEPARTURE FOR THE COLLEGE OF PHYSICIANS AND SURGEONS.

Now that it is an assured fact that the College of Physicians and Surgeons of this city has become a department of Columbia College, it must be acknowledged there is a mutual advantage in the arrangement which cannot be lightly considered. By means of it both institutions gain strength, one by the backing of a rich, strong, and progressive college, the other by the addition of a medical department second to none in the country. In so far as the latter can now be made independent of the number of students and their fees, will the cause of medical education be advanced and the standard of requirements be raised. Under the new rule the medical professors will receive regular salaries from the board of trustees of the college, but will reserve the privilege of nominating the members of their particular faculty. Not only is this understanding a perfectly proper one as guaranteeing the selection of duly qualified men by the trustees, but is a becoming concession for the addition of one million six hundred thousand dollars of real estate to Columbia. The President

of the Medical Faculty, Professor James W. McLane, who was chiefly instrumental in bringing about this desirable change of affairs, will be the Dean of the Medical Department and will represent it in the College Council. The College of Physicians and Surgeons, during nearly a century of existence, has kept itself well in the van of similar institutions here and abroad; has always shown a disposition to advance with the progress of events; has kept its scholarship high and its teaching abreast of the times. It is due to her to say this, even at the risk of making invidious comparisons with the sister schools here and elsewhere. With such a record behind her, and such a prospect before her, what may we not expect! All hail to the Medical Department of Columbia!

THE ART OF CYSTOSCOPY AND ITS USES.

The appearance of a text-book on cystoscopy by Nitze, of Dresden, is a reminder that surgery has made another advance into the viscera of man. It is now over ten years since cystoscopy was first attempted; but it is not much more than two years since its value was recognized. Now, if we may believe the statements of Nitze and of his reviewer, Dr. Willy Meyer (*Annals of Surgery*, June, 1890), the cystoscope is an indispensable part of surgical equipment, and is for the bladder what the laryngoscope is to the larynx.

The helps given by the cystoscope in diagnosis are enumerated by Dr. Meyer somewhat as follows: It shows absolutely whether the disease is in the bladder or not. One can learn to see out of which ureter purulent or bloody urine escapes. Hence we have here a means of solving the question which kidney is diseased, if there be but one affected.

More thorough knowledge of the forms of catarrh, a recognition of the presence of ulcerations, tuberculosis, and of foreign bodies, all follow from the use of the cystoscope.

But it is in the diagnosis of tumors of the bladder that most advance has been made and most help given.

Regarding this point Dr. Meyer gives the following word of advice and warning:

"As the accompanying catarrh of the bladder, which so terribly torments and weakens the patients, is in all cases carried into the bladder by the doctor with the sound or catheter, one should absolutely avoid the introduction of an instrument into the bladder of patients where a tumor is suspected. The cystoscope must be the first instrument in future which is resorted to in these cases."

The cystoscope has added some interesting facts regarding the physiology of urinary secretion. "Many," says our reviewer, "will certainly feel eager to observe once themselves how the urine, descending from the kidneys, enters the bladder with a rush at intervals of from thirty to sixty seconds—sometimes as long as five minutes—producing whirls in the water that had been injected into the bladder; how, at the same, time the mouth of the ureter first slowly contracts to the size of a very small groove and then again gradually enlarges to its former size, at this moment suddenly giving exit to the urine; how the mouth of the ureter remains in this middle position for a short while until the recurrence of the movement determines a repetition of the phenomena; how the displacement of the intra-abdominal organs during respiration reflects upon the vertex of the bladder (downward and upward rolling of the injected bubble of air); how the same spot of the wall of the bladder, especially on either side, shows rhythmic pulsation (transmission of the pulse of the external iliac artery)."

THE PATHOLOGICAL CHANGES RESULTING FROM INJECTIONS OF PARATALOID.

Virchow's observations upon this subject have already appeared. Dr. Browicz, of Korakow, has made similar studies and reached the following conclusions:

"1. That the changes occurring in tuberculous tissues after an injection of Koch's liquid are different from the necroses which usually accompany them. 2. That a specific form of inflammation is induced. 3. That this may assume a hemorrhagic form. 4. That, finally, the inflammation results in the destruction of the tuberculous tissue, and that this result is due to a distinct chemical action. Dr. Browicz considers that the tubercle bacilli may either be carried away by the exudation which is poured out, or else, if the disease is deeply seated, there is great danger of the organism being carried by the blood stream to healthy tissues, so setting up local or general tuberculosis."

Dr. Browicz's observations are very important in view of the fact that Koch thinks that his lymph produces only a coagulation necrosis and not an inflammatory or hemorrhagic process. His observations are confirmed in a measure by Professor Chiari, of Vienna, who gives the results of post-mortem examinations made by him in three cases of phthisis in which Koch's treatment had been employed. In all the tuberculous foci in the lungs there was great accumulation of leucocytes, with considerable fibrinous exudation round about. In the affected parts of the lungs, and in tuberculous ulcers in the intestine, there was marked hyperæmia, and in some instances signs of hemorrhage. There were large masses of tubercle bacilli in the bronchial tubes, and on the bases of the intestinal ulcers. In short, the appearances indicated abnormal exudative inflammation around the tuberculous foci, and (perhaps in connection with this process) a tendency to the expulsion of tubercle bacilli in the lungs and intestines.

Dr. Jürgens also reports the results of autopsies on two cases of advanced phthisis treated by Leyden with parataloid. In both cases the changes in the lungs were so wide-spread that only very small portions of those organs remained permeable to air. The tuberculous foci themselves presented no naked eye appearances which could be attributed to the specific action of the remedy; this, however, was due, according to Jürgens, to the fact that the greater part of the lung-tissue was destroyed by the disease. On the walls of the cavities he saw signs of hemorrhagic hyperæmia, but no trace of caseous substance. The pleurisy was of recent origin, and there was much sero-sanguinolent exudation. The tuberculous ulcers in the alimentary canal presented a remarkable appearance. In place of a grayish base, with red and swollen edges, they showed a surface covered with recent and very vascular granulations. The tuberculous ulcers in

the larynx also differed much from the ordinary type. In short, the tuberculous ulcers generally had lost their specific character, and had become transformed into simple ulcers. Where the ulcers had attacked cartilage, as for instance in the tracheal rings, a similar process had also been set up, the necrosed cartilage had come away, and the ulcer had healed. In the stomach, small and great intestine, and rectum, the tuberculous ulcers, though exhibiting numerous individual differences in detail, presented this common feature that in all of them the specific neoplasm had been eliminated and replaced by ulceration of benign character. In one of the patients who had tuberculosis of the kidney, that organ on section presented a caseous focus surrounded by a zone of intense hyperæmia. On microscopic examination granulation tissue was found, but no tubercle, no giant cell, only an infiltration of pus cells around the caseous centre.

Jürgens's observations, as may be seen, bear more favorably on the action of the lymph.

THE "MYSTIC" AND THE "FRANK."

THE *Saturday Review* has recently been discussing the subject of physicians in a philosophic manner, and it makes some points with regard to their characteristics which must be admitted to be essentially correct. It divides members of our esteemed profession into two classes: the "mystic" and the "frank."

The "mystic" physician, we are told, "is an undoubted survival of the savage medicine man, and his existence is only another proof that we have not yet quite emerged from barbarism. He is not at fault. He either believes in himself quite as firmly as the medicine man does, or he adopts the mystical plan deliberately, and because he knows that through it he is capable of doing more good than he could through frankness. He who should go to minister to a savage tribe would hardly think of treating its members as his intellectual equals. He would be much more apt to get them to take his medicine and follow his advice if he should mix in a few charms, spells, and magic incantations. It is precisely on these lines that the modern mystic physician moves, and it is precisely these accessories of sorcery or their modern substitutes which lend him their aid. If disease does not yield to his blandishments so much the worse for disease. Let it be anathema for existing when it ought not to exist. If the treatment be altered, there is no acknowledgment that a new theory of the ailment is to be tested; the patient is led to infer that the change of medicine is part of a plan formed within the deep recesses of the mystic's brain at the outset."

The type of the "mystic" thus described will be readily recognized. It pervades the cities rather more than the country. For if the rural population be less enlightened, it knows its medical men more intimately, weighs their character, and appreciates their motives.

The "frank" physician, says the *Review*, "may admit, to start with, that a physician is rarely certain in his diagnosis; that he must usually experiment a little at first. He tells his patient at the outset all he knows of the case, outlines the prospective treatment, with all its possibilities of change, and, in short, takes the patient into his confidence. His manner is free from grandeur, authority, or mysticism, and his language is colloquial and simple."

It is admitted that the above method of treatment will not do at all in the great majority of cases, and the "frank" physician has to adopt a trifle of mysticism at times and to vary his methods with the patient. Mr. Henry James, in "Washington Square," hits off this mixed type capitally when he describes a successful New York physician who explained his opinions to his patients but "always left an inscrutable prescription behind him."

The sympathies and aspiration of every honest physician impel him to frankness. And the more comprehensive his knowledge, the wider his experience, the more careful and conscientious his attentions, the less need he will feel for mysticism. The mysterious manner, the pedantic speech, and what may be called the heavy professional style, are indications of medical ignorance. Every decade there is a larger percentage of the laity who understand this and who are learning to appreciate the sincerity which goes with greater knowledge and a surer touch on the resources of the medical art. The positiveness that comes from knowledge is gradually taking the place of the mysteriousness and dogmatism that came from the dim appreciation of pathology as it was known in older times.

News of the Week.

An Opportunity for the Study of Contagious Diseases.—In accordance with a resolution passed at the last meeting of the Board, the Health Department has appropriated sufficient to pay an assistant physician to the Willard Parker Hospital a small salary. The term of service, as previously fixed, is six months. He must be a graduate in medicine, and preferably a hospital graduate. Applications to be made to Dr. D. M. Stimson, No. 11 West Seventeenth Street, New York.

New York Ophthalmological Society.—The following officers have been elected for the ensuing year: *President*, H. S. Oppenheimer, M.D.; *Vice-President*, J. B. Emerson, M.D.; *Secretary and Treasurer*, John E. Weeks, M.D.; *Committee on Admission*, J. S. Prout, M.D.; D. B. St. John Roosa, M.D.; Henry D. Noyes, M.D. Meetings are held monthly at members' residence.

The Cholera in Syria.—We have received from Dr. R. Condit Eddy, of New Rochelle, N.Y., a translation of an interesting Arabic letter from a native of Homs, Syria (the ancient Emessa), where the cholera has recently prevailed. The letter is dated Homs, January 3, 1891. "That you may know respecting the entrance of the disease into this city and its course here, I would state that it began here the sixteenth of October, 1890, and destroyed God's servants without mercy. But until the close of the month the people of the city did not apprehend danger from the spread of the disease among them, trusting to the excellence of their climate as a security against its violence. They concealed from the Government physicians the first cases, fearing the isolation of their dwellings by rigid quarantine regulations, and burying the dead in their gardens beside

their houses. The Government took all precautions by forbidding the sale of unripe or over-ripe fruit, and by closing the tanneries, whence issued injurious odors, and by burning sulphur in the streets. But by the close of the month of October the disease had made such progress that it could no longer be concealed, since there had occurred as many as two hundred cases, and the deaths amounted to one hundred and ten. It prevailed until the close of November, when God willed that this guest, who had stayed unwelcome and unhonored, should depart. The total of the deaths by cholera in the forty days was about two thousand—that is, there was an average of fifty deaths a day. The most of these deaths occurred among the poorer classes of the people, who paid little attention to cleanliness, and who were ill-fed and less able to resist disease. But many who were not poor died from their excessive precaution to escape danger; for they had heard that laudanum was a specific in this plague, and they therefore purchased opium of the druggists and dissolved it in arrack, and drank it without knowing the power of the drug, and without measuring the amount taken, and they died without the cholera touching them. Others died from the ignorance and bad treatment of quack doctors, but the most died from the poison of the cholera producing collapse, when the heart or the lungs refused to act, or when the kidneys did not perform their function." In the neighboring city of Hamah, about three thousand deaths occurred. It was estimated that about ninety per cent. of those attacked in the two cities died. After attacking Hamah and Homs, the cholera proceeded on its course southward and entered Tripoli, but remained there but a short time, and appeared with far less violence than in the cities it had previously visited, that is, of Aleppo and Antioch, besides those already mentioned. About eleven hundred cases were reported in Tripoli, and only three hundred deaths. The disease seems to have left Syria with the cold and rain of January. It remains to be seen if it will appear again there with the return of warm weather, as has been the case in past visitations of the cholera in the East.

The Woman's College of the New York Infirmary gives a reception to-day in celebration of the opening of its new building.

Low Birth-rate of Americans.—Some weeks ago we published an editorial based upon the statistics of the Eleventh Census, and showing an apparent deficiency in the birth-rate of Americans. This birth-rate in the decade 1880 to 1890 is apparently lower even than that of France. The *British Medical Journal* editorially copied the sentiments and the facts given by us under the head of "The Deficiency of Native-born Americans." The *Journal* is now getting credit for our observations. We are glad, however, that the subject is attracting attention, even though a British criticism had to be made first.

Dr. Frank P. Foster, the able editor of the *New York Medical Journal*, has been appointed Librarian of the New York Hospital Library. No better man could have been selected. We congratulate the library accordingly.

Koch's Remedy in Surgical Tuberculosis.—Dr. Eugen Hahn reports (*Deutsche Medical Wochenschrift*, January 1, 1891) 32 cases in which Koch's treatment was tried in the Friedrichshain Hospital at Berlin, from November 21st, up to December 23d. The injections given amounted in all to 300. Hahn found Koch's statements as to the action of the remedy confirmed. The cases treated embraced various forms of surgical tuberculosis, especially bone and joint disease, glandular affections, and lupus. The results were as follows: 16 were considerably, and 12 appreciably, benefited; in 4 no change was perceptible. In cases of tuberculous disease of the bones and joints the results were better when sinuses existed than in others in which there was neither sinus nor surgical opening. In one case, in which the knee-joint was resected, reaction, which had been very powerful before the operation, entirely ceased.

The Causes of Mammary Cancer.—From a careful study of statistics, Dr. H. Schulthess concludes that puerperal mastitis, trauma, and perhaps eczema, are the only etiological factors which can be regarded as of decided importance; menstrual troubles, gravidity, sexual intercourse, lactation, and heredity have no causative influence.

Government and the "Parataloid."—Although the Prussian Government has definitely abandoned the monopoly of the production of Kochine, measures are being prepared for a rigid state control of its sale and a strict supervision of its manufacture. Chemists will not be allowed to sell the lymph unless the state analysts have confirmed its purity. Under an order from Minister von Gossler, all clinics of pathological institutes of the Prussian universities report the results of treatment by the Koch method. So far as received, a majority of the reports are in favor of the treatment. The statement of Professor Hennoch, the great authority of the Berlin University on children's diseases, regarding the danger of treating children with the lymph, is supported by other authorities.

Hygiene of our Public Schools.—The primary schools are those which the State should support most generously and look after most watchfully. Yet in this city they are the worst of all the grades. Dr. H. D. Chapin has been investigating some of the city primary schools, and he finds that the smallest quantity of air-space allowed by law in tenement-houses is four times as great as the largest required by law in the public schools. In the three lower classes the allowance is as 7 to 40, or as 1 to 5.7. The provision for changing even this small quantity of air is inadequate, while in some schools the air is made still more noisome by the gas which it is necessary to burn in order to see. In addition to this, the primary school teachers are the poorest paid and have the largest classes.

Syphilitic Anæmia.—Dr. J. V. Hjelmman, reports in the *Finska Lakaresallskapets Handlingar*, for August, 1890, the results of a number of examinations of the blood in syphilitic patients, made to determine the nature of the anæmia accompanying the disease. The following are his conclusions: 1. The anæmia observed in recent cases of syphilis attains its maximum during the period of eruption. 2. In proportion as the general symptoms disappear the blood regains it normal composition. 3. Mercury administered in ordinary doses plays no role whatever in the production of this anæmia.

Examinations for Army Medical Appointments.—An Army Medical Board will be in session in New York City, N. Y., during April, 1891, for the examination of candidates for appointment in the Medical Corps of the United States Army, to fill existing vacancies. Persons desiring to present themselves for examination by the Board will make application to the Secretary of War, before April 1, 1891, for the necessary invitation, stating the date and place of birth, the place and State of permanent residence, the fact of American citizenship, the name of the medical college from whence they were graduated, and a record of service in hospital, if any, from the authorities thereof. The application should be accompanied by certificates, based on personal knowledge, from at least two physicians of repute, as to professional standing, character, and moral habits. The candidate must be between twenty-one and twenty-eight years of age, and a graduate from a regular medical college, as evidence of which his diploma must be submitted to the board. Further information regarding the examinations may be obtained by addressing the Surgeon-General United States Army, Washington, D. C.—C. SUTHERLAND, Surgeon-General United States Army.

The Warren Triennial Prize.—This prize was founded by the late Dr. J. Mason Warren in memory of his father, and his will provides that the accumulated interest of the fund shall be awarded every three years to the best dissertation, considered worthy of a premium, on some subject in physiology, surgery, or pathological anatomy; the arbitrators being the physicians and surgeons of the Massachusetts General Hospital. The subject for competition for the year 1892 is on some special subject in physiology, surgery, or pathology. Dissertations must be legibly written, and must be suitably bound so as to be easily handled. The name of the writer must be enclosed in a sealed envelope, on which must be written a motto corresponding with one on the accompanying dissertation. Any clew given by the dissertation, or any action on the part of the writer which reveals his name before the award of the prize, will disqualify him from receiving the same. The amount of the prize for the year 1892 will be $500. In case no dissertation is considered sufficiently meritorious, no award will be made. A high value will be placed on original work.—J. W. PRATT, Resident Physician, Massachusetts General Hospital, Boston, Mass.

Dr. C. C. Lancaster, of Knoxville, Tenn., died on February 3d, of blood-poisoning from a wound contracted while operating. Dr. Lancaster was a graduate of Richmond Medical College, and Professor of Materia Medica in the Tennessee Medical College.

The Charities of the State.—The State of New York expended over sixteen millions last year in caring for paupers, insane, and the defective classes. The State had 16,022 insane in custody, last year it maintained two educational institutions for the blind, and seven for deaf-mutes. The poor-houses last year sheltered 22,000, while 97,018 received out-door relief. The State Board of Charities in making its annual reports gives the above figures, and urges the importance of its being allowed to continue its supervision of insane asylums.

The Human Curiosities of a Great City.—New York may never get rapid transit, a World's Fair, or a straight census, but it is advertised to have a lady from Missouri, eight feet high; a fat woman, weighing nine hundred and nineteen pounds; and a two-headed giant, eleven feet tall. There is always something here to stimulate local pride and minister to the joy of living.

A Battle between Doctors.—Although the matter has been to a great extent kept secret, says *The London World*, a battle between homœopathy and allopathy, has raged over the sick-bed of Princess Henrietta of Flanders, precisely similar to that which occurred at the commencement of Lord Beaconsfield's fatal illness. Her mother, who is an ardent homœopathist, called in Dr. Martiny, the head of that school of medicine, and all the eminent orthodox physicians declined to meet him in consultation. The attitude they assumed necessitated the summoning of a provincial practitioner by telegraph, and has given an opportunity to a young military doctor, who considers obedience the first duty of his calling.

Does Man Menstruate?—Paul Albrecht, in *L'Anomale*, calls attention to the fact that white blood-corpuscles appear in the urine of men at regular intervals, are present three or four days, and then disappear. This, he claims, is a kind of menstruation. Men with excessive hypospadias menstruate. He claims this is a proof of the independence of menstruation and ovulation.

A Deciduous Man.—At a recent meeting of the Chicago Medical Society Dr. J. Frank reported a case where a man every July shed his skin. He was taken with feverish tremors, increasing almost to paroxysms. He undressed, lay down, and within a few minutes the skin of the chest began to turn red. The redness rapidly extended over the entire skin, and the feverish tremors continued uninterrupted for about twelve hours. Then he arose, dressed, and walked about in perfect health. The skin now commenced to peel, and ten hours later it began to come off in great patches. From the arms and legs it could be pulled off exactly like gloves or stockings. As the old skin came away a new epidermis, as soft and pink as a baby's, was revealed. This new skin was very sensitive; the patient had to wear softened gloves and moccasins for about a week. After the old cuticle had been entirely removed, the finger and toe nails began to drop off—new nails literally crowding them out. Finally the change was complete—the man had a new skin and a new outfit of nails, and was ready to return to the mines. The shedding began in his first year and recurred every July thereafter.

Deaths of Eminent European Physicians.—Dr. George Gulliver, Physician to the London Fever Hospital, and Assistant-Physician to St. Thomas's Hospital, died on January 17th, aged forty years.

Surgeon-General T. G. Balfour, M.D., F.R.C.P., F.R.S., died recently, aged seventy-eight years.

Dr. Jules G. F. Baillarger, formerly President of the Paris Academy of Medicine and one of the leading alienists of France, died on December 31, 1890.

Dr. Giambatista Borelli, one of the leading Italian surgeons and a Senator of the Kingdom, died on January 10th, aged seventy-eight years.

Society Reports.

THE PRACTITIONERS' SOCIETY OF NEW YORK.

Stated Meeting, December 5, 1890.

ANDREW H. SMITH, M.D., PRESIDENT PRO TEM.

Perineorrhaphy; Its Indications and Methods, with the Description of a New Form of Suture.—DR. CLEMENT CLEVELAND read the paper (see p. 193).

DR. H. C. COE, an invited guest, said he had seen Dr. Cleveland perform this operation, and he had been very much pleased with it. The question had arisen in his mind whether it would be well adapted to those inside tears lying principally in the pelvic floor. But the reader had already explained that in those cases he would employ some additional inside sutures.

Regarding the pathological anatomy of ruptures of the perineum, he thought there were still a good many facts not yet made entirely clear, especially in cases of deeper lesions unaccompanied by much tear outside. Whether the state should be called one of subinvolution, or of overstretching of the tissues, or of actual giving way of the pelvic fascia and muscles, had not been made clear to his mind by dissections. That there was some serious lesion would appear from rolling out of the anterior and posterior walls of the vagina, demanding an operation, although in some just such cases there was no apparent lesion of the pelvic floor.

A Quick Operation.—The advantage of Dr. Cleveland's method of operating seemed to be in the rapidity with which it could be done, and also in the fact that it brought the parts closely together. He would think it especially adapted for the immediate operation. But the whole subject of perineorrhaphy, although an old one, was yet one on which a good deal of study might well be devoted, especially as to the intimate lesion present.

Like other operators, he had seen some cases of extensive injury of the pelvic body unaccompanied by serious symptoms so long as the supports of the uterus retained their tone and the vaginal walls remained in contact with each other. In fact, the object of the operation of perineorrhaphy was to bring the anterior and posterior walls into apposition. Whether Emmet's operation accomplished repair of the deeper tears or not, speaking from an anatomical stand-point, was not certain, but it certainly did to all intents and purposes restore the vagina to the condition it was in before the injury.

DR. GEORGE M. TUTTLE, an invited guest, said his attention had been called by Dr. Cleveland to this operation some time ago, and he had availed himself of the opportunity of performing it in two cases. There was one statement in the paper to which he must take exception, as Dr. Coe had done. It was that all tears of the perineal body were of significance. He thought tears into the body of the perineum had often been seen which had given no subsequent trouble. He had been particularly impressed with the importance of tears which resulted in loss of power in the levator ani muscles. That, it seemed to him, had been the significant feature of most tears in the lower pelvic floor. He thought it was still a question as to just what anatomical structures were involved, whether the fibres were torn, or only overstretched. But when they were impaired he thought one seldom failed to see symptoms.

To further illustrate his meaning, he referred to a case seen a few months ago, that of a woman whose posterior vaginal wall, perineal body, and the wall of the rectum were torn fourteen years ago. The tear extended an inch and a quarter up into the rectum. Yet there was absolutely no want of apposition of the vaginal walls, no prolapsus of the uterus, no symptoms whatever referred to the tear as a tear of the perineal body. The tone, the power of the muscular structures seemed unimpaired to the touch of the hand placed upon them, excepting, however, the sphincter ani. There was no rolling out of the vaginal wall, but there was entire lack of control over the bowel when the passages were soft The case showed that where the sphincter ani was not involved a tear through the perineal structures might not produce symptoms.

Regarding the operation described in the paper, it had impressed him by the neatness and despatch with which it could be performed. His first operation took about six minutes, the second about the same time. But it did not seem to him to fully meet the indications of the Emmet operation, the object of which was to restore to position the relaxed pelvic floor by pulling up on the sulci at either side. But by introducing sutures at the upper angle in the manner he had described it would seem Dr. Cleveland had met that objection. With the exception of the technique in the passing of the sutures the operation seemed to bear a close resemblance to previous operations which had in view bringing the opposite walls of the vagina together. It seemed to meet the requirements of close apposition without leaving pockets. It did not make the repaired structures so strong at the sides as did Emmet's operation. He believed it would prove extremely valuable in operations for immediate repair after labor.

DR. CLEVELAND feared he had not made himself very clear with regard to the necessity of the operation in all cases. When he said positively the operation should be done in all cases, he had in mind recent cases. In other words, the immediate operation should be done in all cases of perineal injury. It did not follow, however, that all cases not operated upon immediately would have symptoms demanding the secondary operation. The object of the immediate operation was to avoid danger of symptoms developing in the future. He did not think there was any operation, Emmet's included, which would entirely restore all the structures which might be torn during labor, but Emmet's came as near to it as any.

Ingravescent Apoplexy.—DR. C. L. DANA introduced a case of this kind by remarking that, some months ago, he had presented specimens to the Society, in two cases, illustrating a form of apoplexy which had been described by Broadbent under the name ingravescent or progressive apoplexy, a form which he thought deserved to be ranked as a special type. Dr. Dana had recently had another case of this kind in a woman, thirty-eight years of age, a native of this country, married, rather fleshy. He was able to obtain very little of the antecedent history further than that during the past two or three years she had had attacks of epilepsy, the fits coming on apparently at each monthly period, and at no other time. On the morning of November 19th she had a fit, this being her menstrual period, and fell on the floor striking the head. She lay unconscious, and was taken in that condition, a few hours afterward, to the hospital. In the hospital she lay in bed profoundly comatose, with abolition of all the reflexes, the pupils immobile, the breathing rather stertorous, the face somewhat flushed—in short, with the symptom of profound cerebral pressure. She lay in this state without special change until death, thirty hours after the onset of the attack.

As was his custom in such cases, he had the temperature taken in both axilla and rectum every few hours. The temperature (Fahrenheit) was first taken at 5 P.M., about eighteen hours after the first shock. 5 P.M.: Right axilla, 102.4°; left, 102.2°; rectum, 104.4°. 9 P.M.: Right axilla, 101.7°; left, 102.6°; rectum, 103.9°. 1 A.M.: Right axilla, 102.4°; left, 103°; rectum, 105.2°. Death at 3 P.M.

It was seen that while the temperature in the axilla was about 102°, in the rectum it reached about 105° F., or a difference of three degrees in the two localities. It was to be remarked, also, that while the patient was evidently

in profound hemorrhagic trouble, yet there was no depression of the temperature, at least not when the record began, twenty hours after the first attack.

At the autopsy they found an extensive hemorrhage, involving the second and third parts of the fourth temporosphenoidal convolution on the left side, breaking externally and also internally into the ventricles. It was evidently from one of the posterior branches of one of the capsular arteries, the same artery which broke in the progressive hemorrhage described by Broadbent. Usually, however, the hemorrhage was not so great as in this case. It cleft its way in between the layers of white matter, and for one, two, or three days might not break either externally or into the ventricles, in which case there were not at first such severe symptoms. Their severity, however, gradually grew, until finally the blood broke into the ventricles when all the symptoms of ventricular hemorrhage appeared. This case, he thought, was of interest in showing that the same artery might break and yet not produce the typical symptoms of ingravescent apoplexy. The case had also interested him in relation to the temperature. He thought this should be carefully studied in all cases of apoplexy.

Gall-stones Frequent; Hepatic Colic Rare.—Dr. H. M. Biggs inquired of Dr. Kinnicutt whether a gall-stone could enter the cystic duct and afterward return to the gall-bladder and there be no return of the attacks of colic. He had been impressed in autopsy work by the frequency of large numbers of gall-stones, especially in elderly people, there having been no history in many instances of hepatic colic. He had sometimes found in a single day among autopsies on Blackwell's Island two or three cases in which the gall-bladder was completely filled with stones, in some instances with very large stones, yet the subjects, who had been inmates of the institution for long periods, had given no history of hepatic colic.

Dr. Kinnicutt had been impressed by the same fact. The special point which he had wished to make in connection with his own case was, whether, when there was a history of attacks of biliary colic without the occurrence of jaundice to indicate that the stone had passed beyond the usual limit in the duct, and without the appearance of stones in the stools—whether in such a case it would not be advisable to entertain an operation. He believed that, sooner or later, when there was a large stone in the gall-bladder, death would result. With the presence of a very large stone the history was common enough that it found its way by ulceration into the intestinal tract, and when so large as the stone presented, would necessarily result in intestinal obstruction.

Dr. Biggs remarked that another feature had impressed him at autopsies on old people, namely, that not infrequently the gall-bladder was found almost or quite obliterated, having contracted down on a collection of gall-stones, and atrophied or ulcerated.

Dr. Andrew H. Smith asked whether any limit could be fixed as to the size of a stone which would refuse to pass through the intestine after having been proved to be too large to pass through the cystic duct. In his opinion there was considerable margin.

Dr. Kinnicutt thought it difficult to say how large the stone would have to be in order to cause intestinal obstruction after having refused to pass through the cystic duct. At any rate, he had always felt that if he had hepatic colic due to a stone too large to pass the cystic duct, he would desire an operation, and one reason for desiring it would be the fear that the stone, if it reached the intestine, might not pass safely out.

Dr. A. H. Smith, having elicited the information that operations for removal of stones from the cystic duct had not proven very successful in this city, said he thought danger of peritonitis might be avoided by first making an incision and causing adhesion to take place between the liver and abdominal walls, and after a few days proceeding to remove the stone.

Is Jaundice always Absent?—Dr. Kinnicutt said it was claimed by Mr. Tait that in cases of gall-stones jaundice was absent, for a stone which would pass through the cystic duct would not be so large as to obstruct the common duct and thus produce this symptom. Yet Dr. Kinnicutt had seen at least three cases in which the diagnosis was made of gall-stone, and in which the gall-stone was found, and there had been persistent jaundice covering a period of several months. Mr. Tait seemed not to have taken one fact into consideration, namely, that while the common duct was larger than the cystic, yet where the former merged with the duodenum it was as small as any portion of the cystic duct. Thus one could readily understand how a stone, after passing through the cystic duct, might become lodged in the lower portion of the common duct. He had seen one such case, in which it was very difficult to extract the stone, which had become impacted in the duodenal extremity of the common duct.

Dr. Biggs remarked, as bearing on the question of jaundice, that he had seen several cases in which gall-stones had lodged in the gall-duct in the liver, being in one half a dozen in number. In such cases there must necessarily be obstruction.

Dr. Kinnicutt asked whether in those cases there had been attacks of biliary colic; if not, they would have no bearing on the question raised by Mr. Tait.

Dr. Biggs replied that he did not know.

Rupture of the Kidney.—Dr. Andrew H. Smith narrated a singular case which had very recently come under his observation in the Presbyterian Hospital. The man entered on Tuesday, giving a history of having been perfectly well up to Sunday, excepting a little constipation. On Sunday afternoon, without known cause, he was seized with pain in the right iliac fossa. The pain grew more and more severe until Tuesday, when he was admitted to the hospital. His temperature was then 102°–102.5° F., there was plainly visible tumefaction in the right iliac fossa, McBurney's point was very well marked (the puncture-point midway between the umbilicus and the superior spine of the ilium), there was some tendency toward general tumefaction of the abdomen. The patient's face showed a very anxious expression, and he was passed over to the surgical side for operation for appendicitis. But some delay took place before the operation could be done, and then it was observed that the tumefaction and sense of resistance had extended posteriorly, and, in fact, were more noticeable in the lumbar region than anteriorly. At about that time blood appeared in the urine. This fact led to an exploratory puncture over the kidney. Bloody urine was withdrawn. An incision was then made in the usual situation for reaching the kidney, and a large sac was opened, containing clots of blood, fluid blood, and urine. On further examination the kidney was found to be ruptured a distance of three-fourths of an inch or more in length. There was nothing to explain the accident. The patient was doing well. There were no signs of peritonitis. The tumefaction would seem to have been due to distention of the intestine. It was only on account of the delay, during which the physical signs changed, that an operation was not done for appendicitis.

Besides the singular points in the case already mentioned, others were the absence of traumatism and of blood from the urine when the patient first entered the hospital. There was no account of hæmaturia before his admittance. In rupture of the kidney, of which there was no history until the operation, one would expect extravasation of blood into the pelvis of the organ. If it was possible for the blood to be at first cut off from the urinary passages, how could one account for its gaining access thereto subsequently? The rupture in this case was rather on the convex surface of the organ.

Dr. Tuttle asked whether the blood had found its way under the peritoneum and produced the tumefaction which had existed in the iliac fossa.

Dr. Smith replied that, as well as he could judge while

looking on during the operation, the blood extravasation had not extended around in that region.

Dr. Kinnicutt had seen a tumor from hydronephrosis push the intestine before it and produce an enlargement in the iliac fossa. The intestine lying over the very large mass caused tympanitic percussion sound and thus obscured the diagnosis.

Dr. Cleveland said he had reported a case of pyonephrosis to the society about a year ago in which the tumor gave the impression of being connected with the ovary, and a positive diagnosis could not be made until the abdomen had been opened.

Hæmaturia with Brief Cerebral Symptoms.—Dr. Andrew H. Smith said he had seen another singular case about a week ago, that of a man about eighty years of age, who had during the past four or five years had recurrent attacks of hæmaturia, unaccompanied by pain or other condition to explain its origin. Last week he was passing urine which contained a good deal of blood, without any pain, without rise of temperature, when suddenly the urine stopped after a small quantity had passed. The little which had passed was composed almost entirely of blood. In a very few hours the patient became comatose and apparently moribund. This was about one o'clock in the afternoon, and Dr. Smith was called in the evening. When he arrived the urine had resumed its flow, the cerebral symptoms had entirely disappeared, and the old gentleman was as lively and happy as usual. Dr. Smith said he could only suppose that the blood had extravasated from the kidney, that a clot had formed, occluding the ureter, that the other kidney through reflex action had ceased its function, or, possibly, there had been but one kidney, and that even during that brief time the symptoms of so-called uræmia developed. When the clot finally pushed its way down, the kidneys again began to act and the mental condition cleared up at once.

Dr. Kinnicutt thought it strange that uræmia should have developed so suddenly unless there were antecedent kidney trouble.

Dr. Smith thought it likely there was a contracted kidney, but he had seen the patient only once, and the family physician had given no further account of the case than what he had stated.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON OBSTETRICS.

Stated Meeting, January 22, 1891.

Egbert H. Grandin, M.D., Chairman.

Election of Officers. — Dr. Grandin was re-elected chairman, and Dr. I. H. Hance was re-elected secretary for the ensuing year. In thanking the members for the honor done him in re-electing him chairman, Dr. Grandin gave a special invitation to general practitioners to be present and take part in the proceedings of the section.

Specimen of Ruptured Tubal Pregnancy.—Dr. H. J. Boldt presented a specimen, consisting of the ruptured tube with placenta, also the ovary, removed from a woman who had last menstruated in November. Later she had hemorrhages and pain in the left ovarian region. The uterus was found somewhat enlarged, retroverted, and to its left was a mass about half the size of a man's fist. He suspected ectopic pregnancy and advised an operation. Previous to operating this morning, the mass could no longer be felt, the woman had been taken with cramp-like pains, and was pretty well exsanguinated. The probability was that rupture had taken place, and this was proven to be so after opening the abdomen. There was over a quart of free blood in the cavity; the left tube had ruptured, and contained a placenta. He did not feel justified in searching for the fœtus, which must have been insignificant in size.

Papilloma of the Ovary Developing soon after Laparotomy.—Dr. Andrew F. Currier related the case of an unmarried woman, aged twenty-six, who had suffered a long time from dysmenorrhœa. On opening the abdomen, he found in addition to a small uterus which was fixed in the pelvis, a small cyst of the left ovary, containing one or two drachms of fluid. He evacuated the cyst and excised the diseased tissue as far as he could discover that it was diseased, and closed the wound. He also shortened the round ligaments internally after Wylie's method. Except for a small abscess in the abdominal wound, the patient made an uneventful recovery, and went about very well for about a month, when, without any evidence of acute illness she began to droop physically, and after another month she was brought back to him, when he found that the uterus, which had been fixed anteriorly, had become detached on one side.

He suggested that the operation be done over. On opening the abdomen the pelvis was found solid with adhesions, although two months had elapsed since the first operation, and there had been no history of acute peritonitis. On lifting the left ovary, the one previously operated upon, he found a tumor as large as a man's fist, which proved to be a papilloma. A cyst of considerable size had also formed in the other ovary. It was new in his experience for a semi-malignant disease to develop in so short a time after an operation of the character described. He asked the members for information, but none responded.

Under what Conditions can Electricity be of Positive Service to the Gynecologist?—Dr. Currier read the paper. He said that to those who were familiar with electricity it might seem extremely elementary. For the general practitioner, however, this might prove a virtue, for according to his experience, most works were too abstruse and confusing. He thought there was much prejudice against this therapeutic agent on the part of some, and too much laudation of its usefulness on the part of enthusiastic supporters. The instruments and machinery, he said, were costly, and their proper application in medicine meant more than play. Success could not be obtained by mere dabbling.

The author divided his subject into, 1, apparatus; 2, indications and contra-indications; 3, cautions and objections. So far as concerned the faradic battery, the simpler and more portable the better. The fundamental principle underlying this form of electricity was that it stimulated the muscular fibre. He did not go into the virtues of long and fine and short and thick wires. Regarding the galvanic current, the positive pole attracted the acids, and acted like astringents and hæmostatics; the negative increased the vascularity, and was sedative, but pain might be relieved by either current. He found the Law or Léclanché cell answer every purpose. A rheostat and milliampère meter were indispensable. He used cords connecting the battery with the electrodes nine feet in length, different colors for the two different poles, and preferred Martin's abdominal electrode to that made of clay, although many had discarded it on account of the cost of platinum. He had had some tips made of Bessemer oxidized steel for use on the intra uterine electrode. With a battery and outfit costing in the neighborhood of two hundred dollars one could get a current of over two hundred and fifty milliampères.

Remembering the difference in action of the two currents, one would never make a mistake and use the negative pole to stop hemorrhage. The author admitted that not until some months past had he given sufficient attention to treatment by electricity to be able to use it with any great amount of satisfaction. The number of cases (twenty-three) which he had to report was not sufficiently great to justify positive conclusions. They included some of pain following removal of the appendages, etc., hemorrhage, inflammatory exudate, subinvolution, fibroids, etc. As to uterine hemorrhage, he knew of nothing which would more successfully check it than the positive pole of the galvanic battery. The hemorrhage in one of his cases arose from an interstitial myoma, in another

from a malignant growth. In three of four cases of inflammatory exudate following peritonitis, the exudate disappeared under electric treatment. In sterility, no one method could be considered infallible. He had used the faradic current with success in two cases out of five in which the fault seemed to be want of development.

For supersecretion in the uterus or vagina the positive pole was far more valuable than astringents, and curretting was not always practicable. The same agent used to check the glandular discharge could also be employed on the erosions on the os. In three cases thus treated the result had been satisfactory. It was not strange that the electrical outfit should appeal to the hysterical woman's imagination. Whether it produced a beneficial effect in any other way he did not know. Uterine subinvolution might mean discomfort, hemorrhage, sterility, etc. The Faradic current, which stimulated muscular contraction, would seem to be indicated. He had obtained good effects from electrical treatment in a number of cases of uterine subnutrition, characterized by amenorrhœa or dysmenorrhœa, sterility, etc.

In the line of contraindications, he said that on several occasions patients felt faintness and dizziness under the treatment, and the current was then at once cut off. In one case of exophthalmic goitre with rapid action of the heart, the use of the positive pole to stop hemorrhage arising from a uterine myoma was attended on two occasions with signs of commencing collapse, and he declined to experiment further. The case taught him the importance of always examining the heart first, and in his opinion an irritable heart should be a contraindication. He thought he had seen evidences of shock due to rapid reversals of the current, although some claimed therapeutic advantages for this procedure. A number of precautions and objections could be offered in electro-puncture.

The Treatment of Menorrhagia and Metrorrhagia by the Chemico-galvano-caustic Action of the Positive Pole.—Dr. A. H. Goelet, the author, being absent, Dr. Hance read the paper. In this method of treating the conditions named, one must take into consideration the state of the surrounding tissues. If there were periuterine inflammation it was necessary to proceed cautiously, feeling one's way to the use of higher currents which were sometimes necessary to control bleeding. Never use more than thirty milliampères at the commencement. Where hemorrhage was apparently aggravated instead of checked, it was probably due to some fault on the part of the operator or movement of the patient. Slight anæsthetic effect of chloroform inhalation might be necessary in sensitive patients. To produce permanent effect in controlling uterine hemorrhage, a decided caustic action from the positive pole was called for. There were two methods, one consisting in applying the platinum electrode to the whole canal at once, and the other in treating it by sections, though at the same sitting. The cervix should be avoided. It might be necessary to dilate. Under the first method, the electrode touching the whole cavity of the uterus, 50 to 100 milliampères usually proved sufficient, sometimes 150 were called for. Under sectional treatment 100 to 150 milliampères were reached at the first sitting if possible; it might be pushed still further if required. It might not be necessary to repeat it for a week if antiseptic precautions were employed. Where there was fungous endometritis the result would be more prompt after thorough curetting. Where the hemorrhage followed an abortion the curette should always be used, and positive cauterization afterward if hemorrhage persisted. In hemorrhage from uterine cancer and destruction of tissue, the galvano-cautery wire produced more prompt effects than chemico-galvanic cauterization.

The author cited two cases in which the positive galvanic treatment stopped the hemorrhage after the curette in other hands had failed; also one in which it was successful against hemorrhage due to a fibroid. Having arrested the hemorrhage in the latter, he went on to treat the fibroid with negative electricity, running the current up as high as one hundred and fifty milliampères five minutes at a time. The tumor greatly diminished.

Dr. Massey, of Philadelphia, was requested to open the discussion. He liked the tone of moderation shown in Dr. Currier's paper. He would advise never to give intrauterine electrical treatment if vaginal would answer, and to use as small doses as would accomplish the purpose. Yet in fibroid tumors, after attempting small doses, he was sure we must use large ones. If large vaginal doses did not answer in chronic metritis, use small intrauterine if there were no contraindications, such as tubal and ovarian disease. He treated exophthalmic goitre with five to eight milliampères provided no shock resulted. He was becoming more favorable to electro-puncture for fibroids, having thus far seen no bad results. He attributed this to the use of an insulated needle, only a quarter of an inch, which projected into the tumor, being exposed. Two hundred milliampères could thus be passed, and not influence the punctured mucous membrane. He preferred to puncture through the vagina, not through the uterus. Without puncture, he had seen tumors go down more rapidly by alternating the current five or six times during the sitting, and could use larger currents than without alternations.

Ten Milliampères Sufficient.—Dr. J. H. Gunning thought moulder's clay offered the best abdominal electrode. He liked platinum, and had found a way to beat instrument makers, who charged enormous prices for it. Buy a lightning-rod point, from which a good many platinum electrodes could be made. The negative pole was useful in relieving congestion. Instead of using thirty milliampères, he found five or ten sufficient. He could use a current of ten milliampères five minutes so as to destroy the surface of the uterus and enable one to remove the mucous membrane down to the connective tissue. This knowledge was obtained by comparative experiments. In view of these facts he never applied the metal electrode within the uterus unless to control hemorrhage; he covered it with clay, and thus brought the current in contact with the entire uterine surface with safety. The negative pole applied in that way would often reduce congestion in a very short time. To overcome pain, if the patient was thin and anæmic he used the bipolar faradic current; if plethoric, galvanism. Without the bipolar method, little would be accomplished in electrical treatment. He objected to large currents; 150 and 250 milliampères might cause one knew not what. He had known the whole interior of the uterus to be ulcerated after it. Where the positive pole was used, he saw no indication for the curette, unless indeed the electrode itself were made sharp and employed in that manner during the passage of the small current. By the bipolar method he could accomplish as much with five milliampères as could be accomplished with thirty where one electrode was placed on the abdomen.

The Darkest Therapeutic Agent.—Dr. H. J. Boldt thought electricity was the darkest therapeutic agent which we had. There were some conditions in which it would give most happy results, but generally when used in the pelvis it was employed blindly. It would in the majority of cases relieve pain connected with perimetric inflammatory conditions following laparotomy, the pain of oophoritis, and pain of indefinite origin. It was also of value after curetting in some cases of chronic endometritis, and it would relieve symptoms and diminish the tumor in some cases of fibroids. It should never be used in suppurating conditions. Since investigating the subject he had found that a number of deaths had resulted from it indirectly. As to patients bearing 200 milliampères in the uterus, he was astonished to hear the statement; even 40 or 50 were usually objected to in his experience.

Overestimated.—Dr. W. Gill Wylie had been unwilling to express an opinion of the value of electricity

until recently, for, although his experience with it dated back to the time when he was interne in the Woman's Hospital, he had not given it very careful study until the last three years. He knew of only one person who had used it in the Woman's Hospital when he was there who still made use of it. It was a curious fact that in no other department of medicine was this agent used in such a way or to such an extent as in gynecology. We did not hear of its employment against hemorrhage from the nose or elsewhere except from the uterus. He thought the reason why it was so largely recommended by some in gynecology was the fact that this department had not been treated of as intelligently as other departments of medicine. Even to-day the correct theory was not generally appreciated and put into practice. Almost all forms of subacute and chronic disease of the lining membrane of the uterus could be treated successfully by securing drainage and employing some alterative measure. He was satisfied that if we applied good surgery electricity would have little place. He objected in a most emphatic way to large electric doses within the uterus for the same reason that he objected to the older use of caustics like nitric acid, nitrate of silver, etc. They created sloughs and scars, destroyed the follicles and obstructed the glands, thus giving rise to reflex and all sorts of symptoms. Small currents would stimulate the undeveloped uterus; large ones administered by electro-puncture would cause fibroids to diminish in size, but might also cause them to slough. For his own part he could now remove a solid tumor with almost as great safety as a cyst, and in most cases where any treatment was demanded for fibroids he thought this a wiser course to pursue than to use electricity unless the patient especially demanded the latter.

Dr. P. F. Chambers said he had been very favorably situated for observing the results of electrical treatment during and after the course, and must admit to having seen very little benefit. He had seen a good many fibroids treated by electro-puncture and otherwise by electricity, but could not conscientiously say that he had observed marked improvement. The patient might be temporarily improved, but the result had altogether given little satisfaction.

Dr. G. M. Edebohls had used electricity alongside surgery for a year and a half, and while it had proved of some service, he did not feel very enthusiastic over it. He said there was scarcely any condition in gynecology which at present did not offer a choice for different plans of treatment, and electricity could at times be selected with advantage. As to the use of high currents, he felt no less anxiety in applying these within the uterus than in doing laparotomy. They should not be given by the general practitioner. In the first place, great diagnostic skill was required in determining when to use them. They were not without danger. In fibroids, one could not say that necrosis would not afterward take place from rapid diminution in size, lead to suppuration and death. He knew of one such case in the hands of another physician, and one in his own. In the latter not more than one hundred and seventy-five milliampères were used. The denudition had gone to the extent of causing softening of the fibroid, sepsis, and death, in spite of Freund's operation.

Dr. J. R. Goffe said that while in Paris he had heard Apostoli remark that the electricians in New York carried the treatment farther than he dared go. He sympathized with the remarks of Dr. Wylie.

Dr. Florian Krug cited some cases in which a diagnosis of fibroid of the uterus had been made and electricity advised, yet he found on operating that the tumor in one instance was a cysto-sarcoma of the ovary, and a double dermoid cyst in another; consequently electricity could only have resulted in harm. He had also operated for sepsis, arising from breaking down of a fibroid following the use of electricity by another physician, but it was too late, and the patient died.

Dr. Vineberg had seen Apostoli treat many cases, in none with bad results. He seldom had occasion to use very large doses, and did not repeat oftener than once in four or five days. In some he did employ 100 to 150 milliampères, but with no injurious consequences.

Dr. Malcolm McLean took a middle ground. He thought, with Dr. Wylie, that one must be a good surgeon to be a good gynecologist, and a good diagnostician to make right use of electricity.

Prefers Static Electricity.—Dr. W. J. Morton hoped gynecologists would test the value of static electricity, especially through his improved large Holt machine and outfit. He had given up faradic and galvanic electricity almost entirely in favor of static in nervous diseases. As to dissipating tumors by electricity, it could be done, in the case of surface tumors, at any rate, only by puncture.

Would Limit the Work of the Laparotomist.—The Chairman had found that the intelligent use of electricity would largely limit the field of the laparotomist. Where pus existed an operation ought always to be done, but in numerous other conditions all that was demanded was to relieve the patient of her symptoms, and certainly electricity did this in many instances where those who were not accustomed to its employment would perform laparotomy and expose the patient to mortal danger. He thought that those who condemned electricity most were frequently too busy with private, hospital, and dispensary practice to give it a fair trial.

Correspondence.

OUR VIENNA LETTER.

(From our Special Correspondent.)

THE THROAT CLINICS OVERCROWDED—MAKING THE ROUNDS WITH PROFESSOR BILLROTH—HIS FAMOUS PATHOLOGICAL SPECIMENS—CASES OF LUPUS CURED.

Vienna, January 14, 1891.

Vienna possesses the most trying winter climate in middle Europe. For the past three weeks the mercury has kept below 0° C., and heavy snow has fallen. There is much dampness and the skies are usually overcast. Such conditions, coupled with the malnutrition, insufficient clothing, and poor lodgings of the lower classes, make throat, nose, and lung diseases very prevalent. Among foreigners, also, catarrhal troubles are rife. The "Vienna throat" one hears of as soon as he arrives, and is well qualified to hand down the tradition to his successors when he leaves. It is questionable whether those who are at all predisposed to throat or lung disease do well to select Vienna for winter study.

All the throat clinics are overcrowded with material, which makes careful and systematic instruction difficult, Schnitzler, Störke, Schrötter, Uffinger, Chiari, Hajek, Berengscazy, and other teachers give courses, the attendance on which is eighty per cent. American and English. Where a given individual shall obtain most profit is naturally determined by his progress, needs, and in short the personal equation. In some clinics the instruction is elementary. In others, the students do such operations as removing tonsils, cauterizing the nose, and extirpation of laryngeal growths.

No notice of throat study here would be complete which ignored the distinguished usefulness of one Frau Gailey, a ward employee in Professor Schrötter's clinic. Though at least sixty, and though she has lost one eye, this person exercises a marked fascination over all young students. The charm lies in the remarkable tolerance of instruments and foreign bodies which her larynx has by long practice acquired. Her occupation has thus come to be that of an animated manikin. For one gulden (40 cents) and a glass of wine she permits the

student to introduce instruments, place and remove foreign bodies, etc., by the hour. So skilled is she that the operator's mistakes are corrected by her hand directing his till the right spot is touched.

One of the interesting experiences here is to make the rounds of Professor Billroth's wards with the great surgeon himself. The Professor walks with a slight stoop, and usually with his hands behind him, and he and his assistants are clad in long operating coats precisely like linen dusters, which with the old and more or less shabby surroundings renders the *ensemble* anything but distinguished. But an hour with this strong, calm, self poised personality, whose low-toned utterances give the results of a lifetime of wonderful industry in the richest fields, leaves a deeper impress than many more showy experiences.

Much use is made here of perpendicular extension in treating fractures of the femur in children. The ordinary plaster strips are bandaged to the limb, but instead of the cord which attaches the weight passing horizontally over a pulley at the foot of the bed, it passes perpendicularly over one directly above the patient's pelvis, thence horizontally to a second, and then to the weight. This latter is just sufficient to raise the buttock of the affected side clear of the bed. The whole limb and half the pelvis is thus swung at right angles to the trunk. Thus defecation can be easily managed and perfect cleanliness secured. No coaptation splints are employed, and no device for preventing rotation. It is found that a muscular equilibrium is quickly established, which prevents inversion or eversion. Results are excellent.

In plastic surgery remaining defects are closed by Thiersch's method of skin transplantation. With a razor-edged knife strips of epidermis some five by two inches are shaved evenly from the thigh, and applied over the raw surface—superfluous parts being trimmed away. The corium is but slightly included in this paring, and quickly recovers itself, while the transplanted flap almost always adheres.

Well worthy of a visit is the Pathological Museum attached to Professor Billroth's clinic. Here are the specimens of pylorus resection from the first operation to the present. Overhead hang, like Chinese lanterns, rows of dried, inflated ovarian cysts. On the shelves are the trophies of many triumphs, among them a large collection of foreign bodies removed by enterotomy. This operation is but seldom needed now. An adult who has swallowed his false teeth, or a child who has similarly made way with a spoon is simply fed potatoes. Fried, baked, boiled, or roasted, they form his only article of diet, and accumulation is favored by occasional doses of opium. This treatment was first empirically used, we are told, by London thieves to recover articles of value which had been stolen and swallowed. It has in Billroth's clinic removed foreign bodies, which in subsequent experiments on the cadavers of subjects of like age and size could not be forced through the alimentary tract.

In the wards one sees many cases of lupus and surgical tuberculosis which have been treated by Koch's injections. In two of these satisfactory healing has been secured, and Professor Billroth will shortly proceed to correct the nasal deformity in one case of cicatrized lupus, by plastic operation.

In the meanwhile, clinical experimentation with Koch's lymph proceeds, and results are being slowly obtained, which, if not definitively curative, are at least superior to any heretofore gained by other means. Professor Kaposi has produced marked improvement in a goodly number of lupus cases, and in two or three complete cicatrization has ensued. Nodules are still to be felt under the scars, but active ulceration has ceased. In many of the unimproved cases a tolerance of the remedy has been established so that even 0.07 produces no effect. It is proposed to cease treatment for a time, in expectation that this tolerance may pass away, and then to begin anew with minimal doses.

AN OLD SURGICAL BILL.

To the Editor of the Medical Record.

Sir: On page 364 of volume ii., of the "Documentary History of the State of New York," Albany, 1849, appears

Dr. Thornhill & Dr Kelsoe's Bill.

An accompt ffor the Wounded & those Men that were Killed in their Majesties Service against Leisseler and his accomplices

	£. s. d.
To Richard Grenard Saddler ffor curing him a gun shot wound through both hips	15.00.00
To James Yeward for curing him of a wound in the shoulder & cutting the bullet out amongst his ribs	15.00.00
To attendance upon Mr. Joseph broune in a gun shot wound	00.10.00
To attendance upon Mrs. Depeysters negro of a gunshot wound	02.10.00
To weiuing the Bodie of Major Mcrigorie	01.00.00
To weuing the Bodie of Mr Pecay	01.00.00
To weuing the bodie of Wessell ten broeke	01.00.00
To weuing the bodie of Leonard Beckwith	01.00.00
To weuing the bodie of Joseph Broune	01.00.00
To weuing the bodie of Mrs. DePeysters negro	01 00.00
To the curing 1 of his Majesties Souldiers of gunshot wound through both the Humerus & radius	10.00.00
	49.00.00

This bill bears no date, but it was probably audited in April, 1691. Lieutenant-Governor Jacob Leisler was captured at Fort William, New York City, March 20, 169$\frac{0}{1}$, but the account of the capture and trial leaves us in doubt whether the killing and wounding were done at the time of the capture or during the previous contests.

Was this "weaving the body" a form of embalmment? What was the process?

Yours very respectfully,

Charles E. Slocum, M.D.

Defiance, O.

VERY BAD IF TRUE.

To the Editor of the Medical Record.

Sir: I desire in this brief note to call off the attention of the enthusiasts of the profession from Koch's lymph, and all other such things, to the plain pathological fact, that genuine tuberculosis is a malnutrition, the natural result of a defective organization, and therefore absolutely incurable. In other words, the victim of this disease is not made right in the beginning, and hence can only be cured by a new creation process. It is the result of defective organization either hereditary or otherwise.

Very respectfully, yours,

J. S. Prettyman, M.D.

Milford, Del.

THE GERMICIDAL ACTION OF THE BLOOD.

To the Editor of the Medical Record.

Sir: In view of the fact that medical science is attaching unusual signification to the discovery of the "germicidal action of the blood" I desire to direct attention to that portion of its origin and history connected with my observations made several years since. Metschnikoff and his theory of the phagocytic action of cells has attracted universal notice and has brought its distinguished propounder a deserved fame. At present there is a disposition generally prevalent which is inclined to look upon the discovery of the germicidal powers of the blood as of far greater importance than that of the noted Russian; yet as to whether it shall eventually supplant or only supplement his services remains to be seen. Be this as it may, my sole purpose here is to ascertain, if possible, to whom the credit of first suggesting this function of blood belongs. Without arrogating this distinguishing fact to myself as author I do maintain that I advanced this doctrine, independently and originally, so far as I know, as far back as September, 1887, while preparing the MS. for the article "Race" in Wood's Handbook, vol. viii. page 430, where I employed the following language when

discussing the factors which go to determine the conditions of immunity and susceptibility among the various races and nations of the world: "Whether the active mediums of resistance be chemical substances, the activities of the cellular tissues, or the white blood corpuscles, or all of these in combination, we know that the investigations of Maurel show the blood of the different races presents differences of composition and number of cells. . . . How far these discrepancies are to be taken in explanation of the various degrees of immunity and susceptibility that are found to characterize the various people of the world is a question still demanding further inquiry. Viewing 'the blood as the life' and that a capacity to resist any and all diseases of this class —infectious—is proportional to its perfectness in composition, it can readily be seen that the blood may also act the part of a protecting agency—one capable of thwarting the assaults of the pathogenic micro-organism." I base my pretensions to priority upon the date of September, 1887, when, so far as I am aware, no author had suggested or discovered the germicidal action of the blood. If I am wrong I should be happy to be corrected. Respectfully,

J. Wellington Byers, M.D.

Charlotte, N. C.

New Instruments.

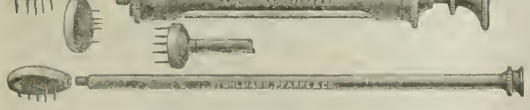
SUBMEMBRANOUS MEDICATION IN THE TREATMENT OF DIPHTHERIA.

By LOUIS FISCHER, M.D.,

ATTENDING PHYSICIAN TO THE CHILDREN'S DEPARTMENT OF THE GERMAN POLIKLINIK.

Chlorine, and more particularly chlorine water, has long been known for its stimulant and antiseptic qualities. Dobie, in 1866, found it more effectual than any other drug in the treatment of diphtheria (*Edinburgh Medical Journal*). Dr. Althaus, in 1868, in an epidemic of diphtheria in Germany, speaks very highly of it (*Medical Times and Gazette*, July, 1868).

Ringer's "Therapeutics," p. 97, speaks very highly of chlorine and its compound, chlorinated soda, in malignant sore throat. Henoch recommends its internal administration, combining it with decoct. chinæ, and so, in all the latest works, chlorine is extolled more or less as a valuable remedy. Dr. Unger ("Lehrbuch der Kinder-Krankheiten," 1890) speaks well of the internal administration of aqua chlori, and so numerous other writers.



Not, however, until recently, December, 1890, has a newer method been recommended by Dr. Seibert, of this city, who employs chlorine water by means of a hypodermic syringe having a long nozzle ending in several points, and by introducing these into the diphtheritic membrane has carried the chlorine into the submembranous tissues, claiming very good results.

Through the kindness of Dr. Seibert I was enabled to use his instrument in a typical case of diphtheria.

Case I.—Servant girl, aged twenty-two. She had been infected by a child, which had died the day previous to her first symptoms, and although her temperature was but 102.2° F. in the evening, she appeared greatly prostrated and complained of violent pains in the muscles of her body. I gave her a subcutaneous injection of five minims of chlorine water into the left tonsil, and was surprised to find her almost recovered by the next evening. She had a very large membrane, which loosened after the fourth day of treatment; she receiving nothing but five-minim injections of chlorine water, and general stimulation, whiskey and milk. I discharged the case cured on the sixth day after the first injection.

Case II.—Child, six years of age, had been sick; complained of dysphagia; on examination I found both tonsils covered with diphtheritic membrane; temperature in rectum 104° F. I gave child gtt. iij. of the officinal aqua chlori hypodermically, directly into the diphtheritic membranes, and found the temperature 102° F. in the evening of the same day. I continued using gtt. iij. hypodermically for four days. Child was discharged cured.

Case III.—Patient aged thirty; diagnosis had been confirmed by a prominent laryngologist of this city. This patient was nursed very carefully, and everything noted. The left tonsil was first affected, after which the right tonsil showed pseudo-membranes. I commenced by giving gtt. v. aqua chlori, and although the severe muscular pains which patient complained of in thighs was not much relieved, the diphtheritic membranes seemed to fade away. This patient finally developed a diphtheritic uvulitis, and later a pharyngitis diphtheritica. I noticed, however, that the violence of the attack and the temperature almost subsided after twelve hours from the first submembranous medication.

Finally, I must state that this form of treatment is not adapted for naso-pharyngeal diphtheria, but that in the few cases, six in all, where I have used it in diphtheria affecting either tonsil or the pharyngeal wall it has given me satisfaction, and it is well to try it.

Nor have I used the chlorine water 0.2 per cent. solution, but have resorted to the officinal preparation, aqua chlori of the U. S. P.

Owing to the gaseous properties of chlorine water it is advisable to use only a freshly prepared solution.

40 Rivington Street.

Army News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from February 1, 1891, to February 7, 1891.

Davis, William B., Captain and Assistant Surgeon. The leave of absence for seven days granted by Orders No. 2, Fort Preble, Me., February 4, 1891, is hereby extended twenty-three days, with permission to apply to the Adjutant-General of the Army for a further extension of one month. S. O. 22, par. 2, Headquarters Division of the Atlantic, Governor's Island, N. Y., February 5, 1891.

Chapin, Alonzo R., Captain and Assistant Surgeon, Fort Yates, N. D. Granted leave of absence for one month, with permission to apply to the Adjutant-General of the Army for an extension of one month. S. O. 17, par 3, Department of Dakota, St. Paul, Minn., January 31, 1891.

De Witt, Calvin, Major and Surgeon. By direction of the Secretary of War, is relieved from duty at Fort Hancock, Tex., and will report in person to the commanding officer at Fort Sam Houston, Tex., for duty at that station. S. O. 27, par. 1, A. G. O., Washington, D. C., February 3. 1891.

Stephenson, William, Captain and Assistant Surgeon. By direction of the Secretary of War, will proceed without delay from Columbus Barracks, O., to Fort Wayne, Mich., and report in person to the commanding officer of that post for temporary duty, and upon the completion thereof will return to his proper station. S. O. 23, par. 13, A. G. O., Washington, D. C., January 28, 1891.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending February 7, 1891.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	11	2
Scarlet fever	153	20
Cerebro-spinal meningitis	3	2
Measles	447	13
Diphtheria	121	30
Small-pox	0	0
Varicella	6	0
Pertussis	1	9
Croup	0	0

Resection of the Urethra for Traumatic Stricture.—A case in which resection of the urethra for traumatic stricture proved successful is recorded by Dr. Horteloup. The patient, aged nineteen, had an impassable traumatic stricture at the level of the perineum. The whole of the contracted portion was excised, and a month afterward a No. 50 Béniqué bougie could be passed easily. After six years and a half the result continued good. The resection of the urethra is easy, and thanks to antiseptic methods is not more dangerous than external urethrotomy. The formation of a urethral fistula need not be feared unless the stricture is in the spongy portion. Dr. Horteloup does not recommend resection in all cases of stricture of urethra, but only as a remedy for traumatic stricture, as in these cases a relapse is the rule.—*Le Progrès Médical.*

The Chicago Academy of Medicine.—A charter has recently been granted to a new medical society in Chicago to be known by this name. According to the *North American Practitioner* there is need of another medical society in that city. The Chicago Medical Society, it says, does not satisfy the aspirations of the profession in that town. Its meetings are held in a dirty and noisy club-room in the Grand Pacific Hotel, in order to reach which the members are compelled to pass through the bar-room, and thus wantonly expose themselves to temptation.

Statistics of Lymphadenitis.—Dr. W. W. Van Arsdale, of this city, writes: "In your report of the meeting of the Academy of Medicine of January 15th, in the discussion on lymphadenitis, I am quoted as saying that I had seen 55 cases of lymphadenitis during the past year. It should be 555. Since any statistical statement in regard to lymphadenitis, based upon so small a number as 50 cases would appear almost valueless, I may add that my statistical statements were actually based upon 1,581 cases observed and treated by me, an equal number to that of last year having been seen by me in dispensary practice for the last three and a half years. May I ask you to have the error corrected?"

Careless Speech and Children.—If we stop to think how every word spoken in the presence of a little child affects its future for good or evil, we would all be far more considerate in our speech. It is astonishing how children will ponder for days a careless word or sentence which no one supposed they had even heard, and at some critical moment use it themselves with a most startling and horrifying effect. Then, alas! we see and deplore its real deformity, and realize how potent is our influence over these observant innocents!

The Geographical Pathology of Europe.—The following list of diseases prevailing in different countries of Europe, translated from *La Rivista Internazional d'Igiene* for the Marine Hospital Bureau, appears in the Abstract of Sanitary Reports, for September 12, 1890.

An Industrial Use of Microbes.—Dr. Neilson, of Norway, says that the Norwegian fisherfolk have for more than five hundred years used pathogenic bacteria in catching whales. A few miles from the town of Bergen there is a narrow inlet of the sea into the mouth of which whales make their way every season. When a whale is discovered in this place the alarm is given and the fishermen put out in their boats, drive the whale farther up the narrow bay, and stretch a net across the mouth of the inlet. Through this the monster could easily break, but he does not. Then they proceed to capture him and bring him to land. The animal, however, is twenty or thirty feet long and very strong, and with their primitive implements alone this cannot be done. They therefore inoculate the whale with the poison of an infectious disease, and only after he is weakened as the result of the disease do they try to kill him. After the whale has been enclosed, the bowmen put out, and when he comes to the surface to breathe, they shoot infected arrows into him and withdraw. After twenty-four or thirty-six hours, the whale becomes less lively in his movements and comes to the surface often to breathe. Then the real battle begins, and after driving ten or twelve harpoons into the whale, the fishermen are able to land him. An examination of the places where the arrows were shot into the whale shows, in the immediate vicinity of some of them, a hemorrhagic infiltration of the muscular tissue, resembling very much the disease of land animals called sympathetic anthrax. The internal organs are normal; once only Dr. Neilson found a bacillus in the blood-vessels of the spleen. Around the poisoned wounds vast numbers of a bacillus are found closely resembling that of sympathetic anthrax. When the arrows are pulled out of the wounds, many of these bacilli cling to them, and thus render them effective as "death arrows" when further used. And thus the catching of whales goes on year after year, and has gone on for five hundred years. Dr. Neilson inclines to the opinion that the infection is the same as that of sympathetic anthrax, and hopes that later investigations may clear up the point.—*Sanitary Inspector.*

BOOKS RECEIVED.

A Practical Manual of Gynecology. By G. R. Southwick, M.D. 8vo, 532 pages. Otis Clapp & Son, Boston, Mass.

The "J. E. M." Guide to Davos-Platz. Edited by J. E. Muddock, F.R.G.S. Fourth edition, 12mo, 150 pages. Price, *2s. 6d.* Simpkin, Marshall, Hamilton, Kent & Co., London.

Arztlicher Almanac. By Dr. Adolph Kallay. 16mo. Tenth year. Wm. Braumüller & Son, Vienna.

A Compend of Diseases of Children. By Marcus P. Hatfield, A.M., M.D. 12mo, 185 pages. Price, $1.00. P. Blakiston, Son & Co., Philadelphia, Pa.

A Text-Book of the Diseases of the Ear. By Dr. Josef Gruber. Translated by Edward Law, M.D., and Coleman Jewell. 8vo, 580 pages. Price, $5.00. D. Appleton & Co., New York.

A Guide to the Practical Examination of Urine. By James Tyson, M.D. Seventh edition, 12mo, 255 pages. P. Blakiston, Son & Co., Philadelphia, Pa.

Twelve Lectures on the Structure of the Central Nervous System. By Dr. Ludwig Edinger. Second edition. Translated by Dr. W. H. Vittum. Edited by Dr. C. E. Riggs. 8vo, 230 pages. F. A. Davis, Philadelphia, Pa.

Text-Book of Hygiene. By George H. Rohé, M.D. Second edition, 8vo, 421 pages. F. A. Davis, Philadelphia, Pa.

A Practical Treatise on Fractures and Dislocations. By F. H. Hamilton, M.D. Eighth edition, Revised by Stephen Smith, M.D. 8vo, 849 pages. Price, cloth, $5.50; sheep, $6.50. Lea Brothers & Co., Philadelphia, Pa.

Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 39, No. 8.
Whole No. 1059.

NEW YORK, FEBRUARY 21, 1891.

$5.00 Per Annum.
Single Copies, 10c.

Original Articles.

TRANSPLANTATION OF TISSUE FROM LOWER ANIMALS TO MAN,

AND A REPORT OF THE CASE OF BONE-TRANSPLANTATION AT CHARITY HOSPITAL, BLACKWELL'S ISLAND, N. Y.

BY A. M. PHELPS, M.D.,

[NEW YORK.

THE case of transplantation from an animal, recently performed at Charity Hospital, has commanded a wide-spread attention and all sorts of absurd rumors have been circulated. But, as will be seen by the present recital, none of the real facts have been stated. The operation is a success in so far as it establishes the principle that it is possible to grow large masses of tissue from an animal to man, and to establish the circulation until the union takes place between opposite species without danger to either. It also demonstrates that a growth of new bone takes place when a section of bone is transplanted and its nutrition maintained by the artery of the animal. This, if continued for four or five weeks, would probably unite a fracture. Owing to the inefficient dressing, which is

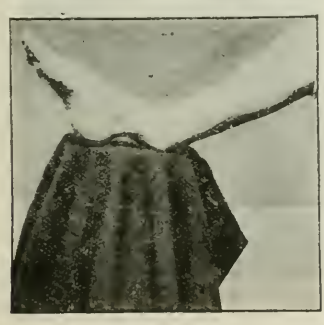


FIG. 1.

apt to occur in all early operations, the contact of the transplanted bone could not be continued sufficiently long for bone to unite to bone. But I am confident, after viewing the specimen, and taking all the conditions and surroundings into account, that bony union would have taken place if actual contact could have been maintained for a longer period. The stimulation of the graft, however, has excited a reparative process in the fracture, and it now promises fair to unite. The boy walks with the aid of one crutch or a cane.

In October a case of ununited fracture of the leg was referred to me by Mr. Marks, the artificial limb manufacturer, and subsequently by Dr. Shufelt, of this city. The patient came here for amputation and an artificial leg. He had been twice operated upon by an eminent surgeon, with a failure each time.

Fig. 1 is made from a photograph, and represents the deformity; Fig. 2 illustrates the positions of the bones, the fibula being some two inches longer than the tibia. I refused to amputate and suggested the operation of bone-transplantation from an animal.

Observation made in my studies during the past two years convinced me that the circulation between opposite species could be established with safety.

Figs. 3 and 4 are reproductions of drawings taken from Billroth's "Pathology." Fig. 3 is from a simple incised wound, showing the effusion of blood into the wound and the capillaries. Fig. 4, the capillary loops growing into the new cell-formation. These finally unite and the circulation is established between opposite sides of the wound. The interchanging of blood between opposite species whose corpuscular elements differed in size, introduced a serious question. But it was reasonable to suppose that the dog would construct capillaries of natural size which might be a little larger than those of the patient. This would prevent the corpuscular elements of the blood from entering the

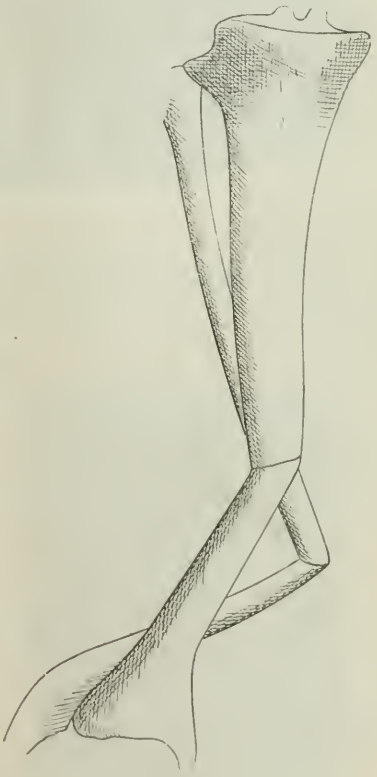


FIG. 2.

capillaries of the patient, and then, secondly, the corpuscles, being protoplasm and possessed of amœboid powers, would accommodate themselves to the smaller capillaries of the human being, and not be arrested in the circulation of the brain or other internal organs. If contact could be maintained bone ought to unite to bone as kindly as muscle to muscle or skin to skin—a fact which I had already demonstrated. The conditions favorable for the union being absolute rest of the wound, perfect coaptation, thorough drainage, and scrupulous

cleanliness combined with antisepsis. In my clinic at the Post-Graduate School and Hospital I performed the operation in the presence of the medical class and a few members of the faculty.

The patient and the dog did well. Upon the sixth day I discovered that the contraction of the biceps muscle had tilted the bone graft up into the wound. Inefficient method of securing the bone in place and the neglect to detach the tendon of the biceps muscle had defeated the operation. The graft was removed. I found

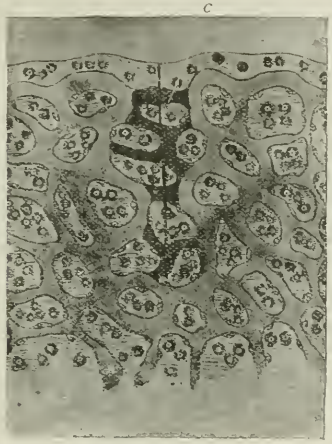


Fig. 3.

that firm primary union had taken place between the soft parts, and considerable force was required to detach the graft. The limb was subsequently amputated and an artificial one adjusted. Thus ended the first case.

In the month of November, last year, the patient at Charity Hospital was sent to me for operation. Briefly the history of the case is this:

The lad, John Gethins, was suffering from an ununited

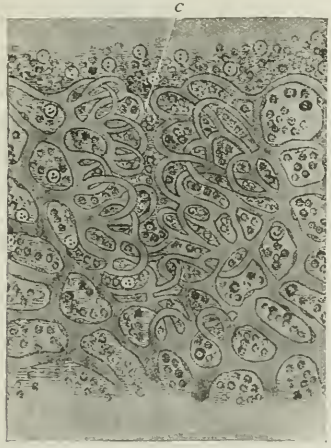


Fig. 4.

fracture of the lower third of the leg, the result of an operation to remedy an anterior curvature of the tibia, which had existed and had slowly increased from early childhood, until he was compelled to go upon crutches.

Fig. 5 is a photograph of the case before the operation of osteotomy. There was no paralysis of the limb, neither was it atrophied, excepting from non-use. The muscles were perfect in every respect.

This case was referred to my clinic, two years ago, by Drs. Wey and Flood, of Elmira, and Dr. Bush, Assemblyman of Horseheads, who kindly furnished the money to pay the patient's expenses while in the hospital.

A few months after the operation of osteotomy I cut down upon the fracture and wired it, but failed in getting union. After a few months I again operated, removing all cicatricial tissue, carefully stitching the periosteum together, and wired the bone. This failed. A few months later I again cut down upon the fracture, removed all cicatricial tissue, and again freshened the ends of the bone, and engrafted decalcified bone chips, according to Senn's method. This failed; the chips came away from the wound a few weeks after the operation. I then resorted to Thomas's method of hammering, damming, and adjusting an appliance for the boy to walk upon. This he wore for several months, but again we failed to secure union.

In the meantime the boy had returned to his home. From time to time I received letters from the lad, beseeching me again to make an effort to restore his limb to usefulness and avoid an amputation. He returned again to New York and was referred to one of the

Fig. 5.

largest and best hospitals in the city; and one of the most eminent surgeons of this country operated upon him twice, with a failure each time. The poor boy, discouraged, returned to his home again.

Last fall, in October, I received a most pathetic letter from him, asking if I would again attempt to unite the fracture. A letter was written to him stating that an attempt at bone-transplantation from a dog, of which I had previously told him, would be tried if he desired. In answer to the letter his parents at once sent him to New York. He was sent to Charity Hospital. The limb, at the time of the operation, November 16, 1890, was in very good condition, excepting the shortening of about four inches, the result of previous operations which had been performed to unite the fracture.

It seemed a pity to amputate the leg. And surely we had arrived at that stage of the case where, so far as our present knowledge was concerned, amputation was the last and only step to be taken. With all of these facts before us we felt perfectly justified in attempting any experiment which would promise to succeed in restoring the limb to usefulness, provided the danger to life was not too great.

The brave lad had submitted to every means known to surgery for the relief of his condition, and, discouraged

and heart-broken, had returned to his home. When he was told there was another chance for his limb his face brightened and he said, "Doctor, I will take that chance." After consulting with the members of the Medical Board of Charity Hospital and several eminent surgeons of this city, we decided upon an operation.

It is a well-known surgical fact that an amputation performed in the growing limb below the knee, or in the humerus, frequently results in what is known as a conical stump. This necessarily leads to re-amputation, and many amputations have been performed from year to year in the same cases for this abnormality. This was one of the reasons, but not the greatest, why we hesitated to amputate the limb.

A dog two years old was secured and prepared for the operation, carefully cleansed with soap and water and made aseptic with a solution of bichloride of mercury.

While the patient was being anæsthetized and the ends of the fractured bones freshened my assistants, Drs. Plympton and Mooney, prepared the dog in the following manner: She was etherized, and then enveloped in a thick layer of absorbent cotton to the thickness of several inches while placed in the natural sitting posture. Over this soft covering of cotton a few turns of a plaster-of-Paris bandage were made to hold the dressing in place. The dog was not encased in plaster of Paris; the right foreleg of the animal protruded through the dressings.

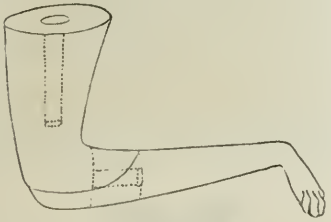


Fig. 7.

This leg was carefully shaved and again made aseptic with bichloride of mercury, and finally with iodoform and ether. The dog was now ready for the operation. With the assistance of Dr. James E. Kelley, Visiting Surgeon to Charity Hospital, and also Drs. Charles D. Roy, C. Stephenson, and J. D. Wood, members of the house staff, we proceeded to the operation upon the patient, which was performed before the matriculates of the Post-Graduate School and Hospital. There were also present Dr. Huntington, of Sacramento, Cal., and Dr. J. F. Winn, of Richmond, Va., and the hospital staff. No one else was present.

Two elliptical incisions were made down to the fracture, four inches in length, removing the old cicatrix and cicatricial tissue about the ununited ends of the bone, together with an elliptical piece of the soft parts. With a saw the ends of the bones were freshened, leaving a space of about one inch between them. The portions removed proved to be eburnated and more like ivory than bone.

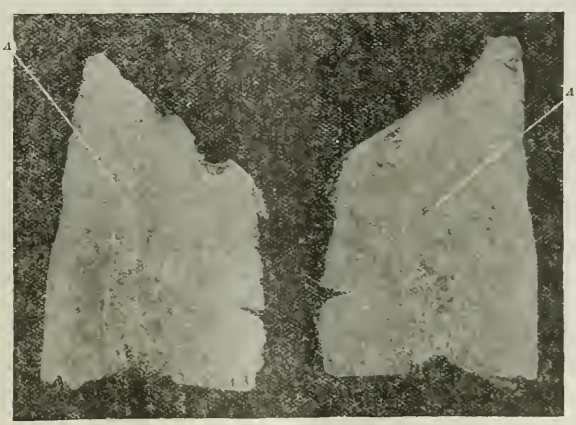


Fig. 6.

Fig. 6 is taken from the photograph of the specimen. *A*, *A*, shows the canal filled with solid bone. My assistants, Drs. Plympton and Mooney, now prepared the limb of the patient for the next step in the operation, by enveloping it in a plaster-of-Paris bandage, commencing six inches above the incision and extending to the upper third of the thigh. The foot and ankle were also covered with a plaster-of-Paris bandage. While they were skilfully preparing this part of the dressing we were preparing the dog. An incision was made through the skin, as represented in Fig. 7, for the purpose of cutting a piece which would accurately fit in the elliptical shaped wound of the patient's leg. The elbow was now quickly excised; the radius and ulna were severed one-half inch in front of the elbow-joint, and the humerus three inches above it, and removed (see Fig. 8, *B*), leaving all the soft parts.

The extremity near the paw was amputated, leaving a piece of bone one inch in length (Fig. 8, *A*), attached to a branch of the brachial artery among the soft parts.

The attachment of the biceps tendon was detached from the bone and loose superfluous muscular tissue removed. In the dog the nutrient artery enters the bone one inch in front of the elbow-joint. Cutting the bone, as indicated above, saved the nutrient artery from injury and secured the nutrition to the fragment of bone from which we had hoped that new bone would be thrown out, and at the same time stimulate the human bone to a reparative effort.

The dog was placed by the side of the patient's leg, the head toward the patient, Fig. 9.

An aluminum dowel pin was passed through the medullary cavity in the long axis of the bone. This I think was a mistake. A steel pin inserted into the solid portion of the bone would not interfere with circulation so much. See Fig. 10. The piece of bone *A*, Fig. 8, was placed between the ends of the bone *B*, *B*, of the patient, as seen in Fig. 11. The bones were crowded together, the dowel-pin entering the bones of the patient above and below. A silver wire was passed around the entire graft (see Fig. 11) and securely tied. This held the bone firmly in place. Fig. 11 shows the artery giving off its nutrient branch to the grafted bone, *A*. Muscle was stitched to muscle, and skin to skin, the parts being evenly coaptated. *C* is the humerus of the dog.

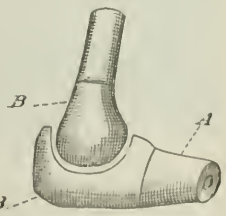


Fig. 8.

Fig. 12 is a diagram showing the bone, *A*, in place between the bones of the boy, *B*, *C*. It also shows the dowel-pin, wire, main artery, and nutrient artery. *D* represents the dog's leg stitched to the soft parts of the patient, *E*. Band iron was bent and adjusted over the wound, from the upper plaster cast to the lower one of the boy's foot, thus leaving room for dressing. A large drainage-tube was inserted for drainage, which opened posteriorly.

A few turns of the plaster of-Paris bandage secured the iron rods to the leg. The wound was dressed antiseptically.

Through the entire operation the most rigid antiseptic methods were carried out. Constant irrigation prevented the possibility of wound infection. Having in Drs. Plympton and Mooney two most efficient dressers, and working two teams, one for dressing and one for operating, the hands of the operator did not need to come in contact

Fig. 9.

with the plaster of Paris or septic dressings. The operation can be performed in one hour with efficient dressers.

The operation appears difficult and complicated, but is quite simple when understood. Many mistakes of the first operation were corrected in this, and many which occurred in this could be corrected in another. The operation of open incision for club-foot, which I first performed in 1879 and published in 1880, was perfected only after twenty operations had been done. And so it is with all first operations involving complicating mechanics.

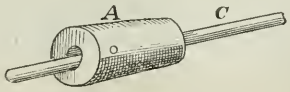


Fig. 10.

The patients (for we must now say patients) were put

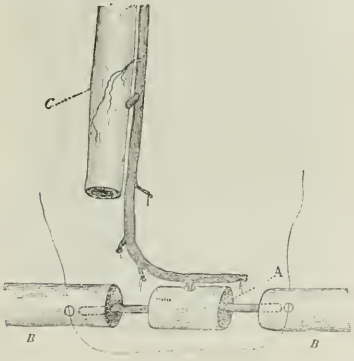


Fig. 11.

to bed. Both recovered from the anæsthetic rapidly. Small doses of morphine were used for both, from time to time, to allay, not so much the pain as the uneasiness caused by the forced confinement. After three days this uneasiness passed away, and from that time on the dog and patient became friends, administering to each other's comfort—the patient by feeding and playing with the dog, and the dog by vigorous wags of the tail which showed her appreciation of his kindness.

I neglected to say that before the operation was performed the vocal cords of the dog had been carefully severed, under ether, to prevent any disturbance of the patient. At the end of two weeks, however, the cords had again reunited, and the voice of the dog sounded fully as strong as before the operation. The only pain caused to either patient was the twitching of the muscles of the dog as she shrank in her bed from the loss of adipose tissue. This might have been prevented by a simple procedure at the time of operation. But this was a new development which had not occurred in the first case, and which we were not fully prepared to meet when first discovered in this.

On the sixth day the case was dressed in the presence of Drs. Newman, Stewart, Wooley, and Professor Prince Morrow, of the University Medical College, and Visiting Surgeon to Charity Hospital.

The wound was found perfectly healed by primary union, without a single drop of pus. Only for the difference in the color of the skin it would have been difficult to detect the line of union. On the eighth day we again dressed and the union was still perfect and more firm. Finally, at the end of eleven days, there was an apparent shrinkage of the dog in the dressings. This allowed of motion, and it became evident that the graft would be pulled from its attachment within a few days. Consequently, much as I desired to continue the experiment, I concluded, as a prospective act of humanity, to sever the bond of union. I was prepared to do this the moment that I discovered that any surgical interference would become necessary, which would inflict additional pain to either, in order to continue the experiment.

The dog was chloroformed during the operation.

While the graft was being trimmed, and the leg of the patient dressed, Dr. Kelley skilfully secured the artery and nicely stitched up the stump of the dog's leg. She was then placed in bed and cared for by the nurse. As the graft was trimmed down to the parts still attached a free oozing of blood took place through the graft, which demonstrated the fact that union had taken place and

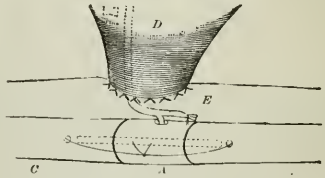


Fig. 12.

that circulation had been established between the patient and the dog. Both patients rapidly convalesced. The boy spent his time writing letters to his friends and reading the papers and postal cards from persons praying that the effort to save his leg might be a failure.

The wound was dressed and the graft examined daily. At the end of five weeks it was discovered that the bone showed no further sign of uniting, and desiring to give the boy every chance for union of the fracture it was removed. The rods, also, were removed, and the ends of the patient's bones placed firmly together, hoping to secure union because of the stimulation produced by the graft. The bone-graft was irregularly covered with a new growth

of bone, as seen in Fig. 13, *B*, thus proving, I believe, that an effort had been made to unite the fracture.

This was the result of eleven days' contact, whereas at least thirty days are required for bony union to take place.

Fig. 14 is taken from a photograph of a longitudinal section of the same bone and shows the thickness of the new growth on its surface, *A*. The canal of the bone was

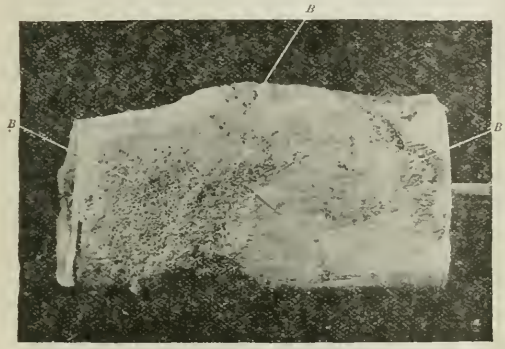


Fig. 13.

also filled with new growth of bone, excepting where the dowel-pin passed through.

The average temperature recorded in the patient was about 99½°, in the dog 99⅘° F. The average pulse of the boy was about 95; that of the dog about 98. The normal temperature of the dog is above a hundred degrees, that of the human being 98½° F. The temperature of the dog fell to below a hundred and that of the boy rose to near a hundred, or the same as that of the dog, where it remained for weeks. The pulse of the boy rose and the dog's fell until they beat nearly the same number of beats per minute, varying from ninety to one hundred and ten. The boy ate, slept, and felt well. There was no sepsis. Whether this peculiar condition of temperature and pulse was due to the interchanging of blood between the animal and the patient I am unable to say; further observation is necessary to verify it.

Fig. 9 is a photograph of the case taken by Dr. R. H. Pomeroy, a member of the house staff, a few days after the operation. After the eleventh day, owing to the plaster of Paris accidentally getting into the wound, pus for the first time was seen. This rapidly disappeared.

The operation had a twofold object: First, to establish the fact that large masses of soft parts could be transplanted from an animal to man; second, to unite an ununited fracture by a section of bone from the dog. We have succeeded in demonstrating the first proposition, but have partially failed in the other in so far as the actual growing of the bone into place is concerned. This was due entirely to a defect in the dressings. This principle of transplantation established means much to humanity; its application will be found useful in many cases which now defy the best efforts of the most skilful surgeons in the world.

Among the cases suitable for the application of the principle are those cases of fractures which resist all efforts for their union, and which must necessarily result in amputation; ulcers of a particular class which can be cured by no means known to surgery; scalps ripped from the heads of factory girls by machinery. Months, and often years, have been taken to skin-graft back the scalp to cover the skull, and numerous friends have been flayed to supply the material.

Thiersch's method of skin-grafting has been a step in advance of the older methods, but a martyr must be found to submit to the flaying. A dog would be found better adapted for the work, as hair could be transplanted with the flap. Sloughing, following amputations in the upper third of the tibia, resulting in cicatricial contraction with indolent granulations covering the end of the stump, caused by the bad circulation from pressure, is now cured. But how? By amputation at the knee-joint or else so near to it that an artificial limb cannot be worn with a useful knee-joint. Animal transplantation should be resorted to before amputation is performed.

If circulation could be established between opposite species, the elements of whose blood differed, without injury to either, a step would be taken which might lead to the relief of many a sufferer. Then large masses of tissue could be grafted from an animal to man, the circulation of the animal furnishing that which the patient could not supply, as in bone-transplantation. Or in grafting of soft parts the circulation of the dog would keep alive the graft until it had become firmly united to the patient, then it could be severed.

In bone transplantation it was expected that in four or five weeks the animal would have thrown out a provisional callus, and at the same time stimulate the fracture to repair. Figs. 13 and 14 seem to substantiate that theory. A dog was selected because the elements of its blood very closely resemble those of man. The reparative energy of a dog is very strong and his power of endurance great. No unnecessary cruelty is inflicted, and aside from the confinement but little suffering occurs.

Of course it is useless to reply to those who have denounced the operation as cruel and unnecessary. Those who understand the motive which actuates the surgeon can comprehend how, with all sympathy for the brute, his sacrifice of limb may be demanded for the good of his master, man. They, too, can appreciate the reluctance of the surgeon to inflict wanton suffering, whether upon man or brute, and can understand how such an operation only seemed commendable when a more than commensurate benefit was promised. To those whose eyes are blind to

Fig. 14.

human suffering, and whose sympathies are all for the brute, I have nothing to say.

It will perhaps be remembered that this poor lad demanded that every means should be exhausted which promised relief before amputation should be resorted to. He still demands it, and the demand is one which a humane surgeon should consider before resorting to an operation which would involve the loss of a limb and possibly life.

40 West Thirty-fourth Street.

The Central-Zeitung fur das Koch'sche Heilverfahren, the organ for the progress in curing tuberculosis and other infectious diseases, has just appeared in Berlin.

A CASE OF ACUTE ASCENDING PARALYSIS—RAPIDLY FATAL ISSUE.

By JOSEPH EICHBERG, M.D.,

CINCINNATI, O.

THE case whose history I desire to report to-day is one of more than usual interest; its comparatively rare occurrence, the difficulty of diagnosis, and the speedily unfortunate termination entitle it to more than a passing notice.

The autopsy and the subsequent microscopic examination of the central nervous structures were, in a measure, necessary to clearly establish what had been, before, a somewhat doubtful diagnosis.

The question had been raised, shortly after the admission of the patient to the service, whether we were dealing with an acute inflammatory process of the cord, or whether this might not be a case of so-called Landry's paralysis, a term that still lacks scientific limitation, and for which no precise clinical picture has yet been presented. Aside from the question of diagnosis, the decision of this question was of some importance as to prognosis, the chances for the patient being a trifle better with a myelitis than with an attack of Landry's paralysis. The points of resemblance and difference will appear pretty clearly from the following history, for the careful notes of which I am indebted to Dr. Hunter, interne of the service.

Supposing it to be Landry's paralysis, the suddenness of the attack, the rapidity of its march, and the quickly

FIG. 1.—Anterior Horn, Gray Matter. Lumbar enlargement, showing pericellular lymph-space very plainly, owing to placing cord in alcohol for twenty-four hours before transferring to Müller's fluid. 60 diameters. Normal cord.

supervening fatal issue would earn for it a qualification which the French have found in the pertinent adjective *foudroyant*, as though struck by lightning. It is not the least singular feature of this disease that, mysterious as it is in onset, baffling in progress, hopeless in treatment, it yet should fail to show to the most careful examination, by scalpel and microscope, the track which marks the path of the storm.

We pride ourselves on increased resources in the great field of pathology; yet this is a section where the soil has but been turned; and there are, indeed, few affections, concerning every department of which there is so much uncertainty as in the case of Landry's paralysis. Etiology, pathological anatomy, and therapeutics are all totally blank for us, nor is there yet complete unity as to diagnosis; for symptoms have been found wanting that were considered as essential, and again other phenomena whose absence was deemed necessary to a clear diagnosis have been recorded in certain cases.

Whether Landry's paralysis, or acute myelitis of this rapidly progressive type, it seems to me, that cases in this category deserved to be ranked with infectious diseases; the infection, too, being most virulent in character, as indicated by its results. The infectious material, of unknown nature, leads to reactive changes in the spinal cord, similar to the local reaction in the lymphatic structures in typhoid fever, or in the lungs in pneumonia. This view as to etiology receives some support from the occasional association of both myelitis and Landry's paralysis with some of the exanthemata; other forms of intoxication, too, have been known to precede their development.

As between Landry's paralysis and acute myelitis it would almost seem that only the post-mortem examination of the case, from the presence or absence of recognizable alterations, will enable us to decide as to nomenclature. Now the recognition of morbid changes in the spinal cord and medulla is dependent upon very important factors, other than the existence of a lesion; I would refer especially to the methods of hardening and staining. It is my firm conviction that, in many of the cases of so-called Landry's paralysis, where no lesion could be found, inattention to the matter of hardening or staining has been the cause of obscurity in diagnosis. It may seem strange that, in this day of general familiarity with the microscope and its technology, a point of this kind should be strongly insisted upon, yet I have repeatedly seen valuable specimens ruined by ignorance or neglect of the necessary details; and in no tissue is rapid disorganization more likely to occur than in the delicately organized, unstable structure of the central nervous system.

Now, a very fair test of the success of any system of hardening is to be found in the condition of the epithelium of the central canal; where this is so well preserved that the columnar character and nuclei of the cells are visible there is little more to be asked. Such results can be uniformly obtained with the familiar Müller's fluid, provided sufficient of the fluid be employed, and the solution be changed every two weeks until the cord is transferred to alcohol. With attention to these points in the preparation, and with the selection of the proper staining reagents, the microscopic appearances of the cord will be brought out with a clearness and precision otherwise unattainable; and all the care and trouble of preparation will be fully repaid by the discovery of the anatomical changes upon which the value of the clinical history depends.

I may be permitted briefly to refer to another point of some practical assistance in the microscopic study of the cord, especially with reference to localization. All workers in this department will have recognized the difficulty, nay rather the impossibility, of deciding, in many cases, which lateral half of the cord is under examination. With all possible care in the making of sections and subsequent handling of the same, it will occasionally happen that a section is turned, so that what is really the right half of the cord comes to lie at the left of the observer.

A safe guide can always be assured by simply painting a narrow band of the outer surface, down one or other side of the entire length of the cord, with some pigment not affected by alcohol. Thus it has been my practice for some time to use for this purpose a concentrated solution of picro-carmine, which imparts its color only to the outermost layer, and stands out prominently enough against the aniline blue-black hæmatoxylin or Weigert's stain, these being the reagents that have given most satisfactory results for the finer study.

The cord, just withdrawn from the Müller's fluid, readily takes up the carmine stain, which remains through all the subsequent manipulations; and the thin band of red along the lateral columns always enables me to decide at once which lateral half of the cord is under examination. To avoid confusion, it has seemed best to always employ the carmine stain for the same lateral half of the cord, no matter what the nature of the specimen, and having begun with painting the left lateral column, I have continued to select that part as a guide, though this point is, of course, purely arbitrary.

The history of the case is as follows:

George R——, aged twenty-one; weight, 125 pounds;

English; waiter; well developed and nourished. Family history: Mother died of pneumonia; father alive and healthy; four brothers and three sisters alive and well; collateral branches negative.

November 13, 1889, 5 P.M.—Admitted to hospital; first time in hospital. Pathological history: Always been very healthy; has had measles and pertussis; denies rheumatism, malaria, typhoid fever, and pneumonia; denies ever having been affected with any venereal disease; been moderate drinker of beer for past three years. Present history: Patient states he felt perfectly well until Sunday morning (four days ago) at which time noticed that it was impossible for him to arise from his bed, owing to pain in lumbar region and both lower extremities; he also noticed that he could not easily move right leg, although motion in left was unimpaired; says he noticed nothing else until the following day, twenty-four hours later, when gradually lost all motion in right leg, also states pain in back, legs, and head, continued during this time; he walked around during first day, but was unable to do so after that; states on second day, Monday, noticed a sense of constriction about waist, he comparing it to sensation as though apron was tied about him; this pain in back he states has gradually travelled upward; complete loss of motion in right leg and impaired movement

FIG. 2.—Single Ganglion Cell from above, more highly magnified. Defines more clearly relation of lymph-space and cell, showing nucleus, nucleolus, and granular matter. 250 diameters. *Note.*—This is the centre cell or space of Fig. 1 highly magnified.

in left has continued until present time; states could move both upper extremities well until this morning, when noticed an impairment of motion in right arm, forearm, and hand, which has been gradually growing worse; states appetite has been poor and bowels constipated; says could not urinate on Monday, and took some nitre, which relieved the retention until last night, since which time has been unable to urinate. Present condition: Nervous; mental condition good, no chill or chilliness; has had vertigo at times for past three days; sleeps quite well; complains of constant pain with occasional exacerbations in both legs and back extending up to middle dorsal region; slight headache; girdle pain present. Respiratory system: No cough, no difficulty in respiration, no hæmoptysis. Circulatory system: Pulse, 108; temperature, 101.8 F. Digestive system: Appetite poor; some nausea and vomiting, which has been present for past two days; bowels constipated, no stool for past three days. Urinary system: Retention of urine, not having passed urine for twenty-four hours; urinalysis, amber, acid, specific gravity 1.030; no albumin or sugar. Physical examination: General aspect—physique good, medium height, hair dark, face somewhat flushed, expression of pain, brows corrugated, eyes normal in size and react to light. Mouth: Teeth good, tongue large, pale, flabby, coated on dorsum and not tremulous. Chest inspection: Full and well-formed, movements regular and not accelerated or limited; expansion good, no depressions present; apex-beat in normal position. Lungs: Examination negative. Heart: Action quite rapid. Abdomen: Nothing abnormal discovered with exception of tumor in hypogastric region; loaded colon. Extremities: Complete loss of motion in right leg, and movement in left is very slight; motion is also considerably affected in right arm and forearm; moves left arm readily. On testing strength with dynamometer, is found to turn index to 20 with right hand and around to 50 with left. Sensation in affected parts is unimpaired, there being a marked tendency for patient to overestimate the points touching him when using the æsthesiometer. Locates precisely part touched or irritated. Muscular sense appears somewhat diminished. Reflexes: (1) Plantar reflex present; (2) Ankle clonus absent on both sides; (3) Loss of both patellar tendon reflexes, also cremasteric and epigastric. Catheterized. Ordered antifebrin, 10 grains.

November 14th, A.M.—Pulse, 112; respiration, 28; temperature, 103.4° F. Patient slept quite well, still complains of pain in back, extending up to middle dorsal region and down both lower limbs. Pain cramp-like in character. Girdle pain present, encircling body just above umbilicus. Still unable to move right leg, but slight motion in left leg, motion in right arm more impaired. Turns index of dynamometer to 10 with right hand and to 50 with left. Respiration somewhat catching in character. Pupils normal, no appetite, no stool, vomited twice, retention of urine; catheterized. Ordered mercuric inunctions; bichl. merc. and potass. iodide by the mouth. P.M.—Complains of severe pain in head. Pulse, 104; respiration, 24; temperature, 101.6° F. Pain in back has extended up into cervical region, continuous pain in both lower limbs, with frequent exacerbations. Still unable to move right leg, motion somewhat more extensive in left leg, remains about the same in right arm but has involved left arm, motion being considerably impaired in it. Pupils contracted and react sluggishly to light; complains of seeing double; girdle sensation still present. Has pain in substernal region. Respiration very jerky in character. Anorexia present, no stool, retention of urine; catheterized. Ordered hypod. morph. sulph., ¼ grain. Ordered sherry, ℥ j.

November 15th, A.M.—Pulse, 108; respiration, 20; temperature, 102.5° F. Did not sleep well, was restless; motion in the extremities about the same as last evening; complains of pain in the back of the neck, along the spine, occipital region, and in the knees. Pupils contracted and immobile, sensation unaffected. Respiration more regular and not so jerky in character. No stool nor retention of urine; catheterized. Gave hypodermic of morphia, ¼ grain, at 2 A.M. This morning convergent strabismus present (in both eyes); turns index with left hand to 50. P.M.—Pulse, 112; respiration, 20, regular; temperature, 102° F. Cannot move either lower extremity, except moves toes of the left foot; very slight motion in the right arm; motion is much more impaired in the left arm; turns index with left hand to 15, cannot move index with the right. Sweating profusely. Respiration regular; pain in the back of the neck, back, and legs; numb sensation in arms. Pupils contracted and immobile, convergent strabismus present in both eyes. Retention of urine; catheterized; anorexia, no stools; complains of back—*i.e.*, buttocks—being sore, some congestion over same. Ordered co. jalap powd., 20 grains; morph. sulph., ¼ grain.

November 16th, A.M.—Pulse, 120; respiration, 28; temperature, 101.2° F. Patient states rested quite well and slept some during night; appears to be some slight impairment in mental faculties, as indicated by slow, hesitating speech; complains of pain in frontal region, back of the neck, along the spine, over sacrum and in the heels. Ptosis of left eyelid, partial convergent strabismus present in both eyes, but more marked in the left, pupils contracted and immobile; no paralysis of the muscles of the face; profuse perspiration over head, face,

neck, and arms; face slightly flushed; respiration accelerated and shallow; no motion in the right leg and none in the left, except is able to flex toes slightly; no movement in the right arm and is extremely slight in the left, but still able to flex fingers, as turns index to 14 this A.M.; supination of hand lost; sensation unimpaired in the extremities, localizes points touched well. Muscular sense unimpaired; temperature sense greatly impaired over the lower extremities, but retained over abdomen, chest, and upper extremities. Acute decubitus developing over sacral region, large blebs being present; no vomiting, swallows quite well, although slowly; no stool, retention of urine still present; catheterized. Ordered hypodermic morph. sulph., ¼ grain; glycerine injection into bowel. Measurements of lower limbs: Around calf, right, 12 inches; left, 11⅞ inches; around thigh, right, 16½ inches; left, 17 inches. P.M.—Pulse, 108; respiration, 24; temperature, 101.5° F. Condition unchanged since morning; heels sore; complains of pain in the stomach, elbow, calves of legs, and heels. Heels padded with cotton; lies with eyes closed; says feels better; bowels moved freely, urine retained; ate but little during the day; cannot move index with either hand to-night.

November 17th, A.M.—Pulse, 112; temperature, 100.8° F. Rested well, but did not sleep much during night. Mental condition seems somewhat affected this morning, as statements are contradictory to some that were given when came into house. Complains of pain in elbows only. Is able to move hands slightly this morning, sweating considerably, cannot turn index with either hand. Acute decubitus developed on both sacrum and heels. Strabismus and contraction of pupils still remains. Hypersensitive over affected parts; no stool, urine retained, but nurse states voided small amount. P.M.—Pulse, 108; respiration, 40; temperature, 100.8° F. Patient delirious to-night, not realizing his surroundings, wants to know which is his way home, etc., but recognizes the interne. Respiration still irregular, and somewhat catching and accelerated. Pupils contracted, and convergent strabismus still exists. Whitish secretion resembling semen exuding from penis. Moves hands and arms slightly. Still perspires freely, complains of pain in back of head and bladder.

November 18th, A.M.—Pulse, 128; respiration, 40; temperature, 101.6° F. Delirium still remains; can move forearms and flex fingers of left hand slightly, although is not able to turn index. Perspires profusely; talking to imaginary people; cannot move feet or toes; incontinence of urine. Pupils dilated by homatropia. P.M.—Pulse, 132; respiration, 36; temperature, 101.8° F. Patient still delirious; does not know where he is, talking to persons not present, etc.; recognizes interne; moves both forearms and fingers of left hand. Inspiration quick and sudden. Pupils dilated from homatropia. Sensation unimpaired, and localizes point irritated perfectly; moves toes of left foot slightly. Bed sores still remain about same. Incontinence of urine still present. Says has slight pain in back. Ophthalmoscopic examination negative.

November 19th, A.M.—Pulse, 140; respiration, 24; temperature, 105.8° F. Patient unconscious this morning, unable to speak; does not move extremities; face pallid; pupils dilated, but due to influence of homatropia. Respirations short, quick, and jerky, especially the inspiratory act. Micturition involuntary; vomiting this morning, vomited material of yellowish color. Divergent strabismus of left eye, the pupil of which is more dilated than right. 12 M.—Death quietly took place by apnœa; toward the last respirations were jerky and irregular in character.

Autopsy: Lungs, heart, spleen, liver, kidneys, stomach, intestines, and brain normal. Spinal cord—Membranes congested, but no lymph observed; cord apparently quite hard and firm; anterior horns markedly congested, being very red in color, especially in dorsal and lumbar regions.

Microscopic sections were made at eight levels of the cord, beginning at the third cervical vertebra, the lowest section being taken at the commencement of the cone that ends in the filum terminale. Some of the changes are pretty well defined in the accompanying pen-and-ink drawings, for whose careful preparation I am indebted to the skill and kindness of my friend, Dr. D. T. Vail. At all of these levels the signs of acute inflammatory reaction were plainly evident. Hemorrhages of microscopic proportion, especially into the anterior horns of the gray matter, less abundantly met with in the posterior horns, testify to the intensity of the congestion. The capillaries are everywhere mapped out as plainly as though they had been successfully injected, their calibre being distended to the utmost with red corpuscles. Around the capillaries, more decidedly, however, immediately surrounding the larger vessels, is a zone of round-celled infiltration, extending for some distance into the surrounding tissue. The perivascular and perigangliar lymph spaces are obliterated. The pia-mater and the subarachnoid spaces give equal evidence of this round-celled infiltration. There have also been destructive changes of considerable extent in the anterior horns of gray matter, increasing in intensity, and in the area involved, from above downward.

Fig. 3.

Fig. 3.—Wall of Microscopic Abscess in Right Anterior Horn, Gray Matter, Lumbar Enlargement (case here reported). Disintegration of tissue, round-celled infiltration and small capillary crowded with corpuscles (stasis). 60 diameters.

The maximum of inflammatory reaction was found in the right anterior horn of gray matter in the lumbar enlargement, where the tissue was so completely broken down that a small abscess of the size of a barley-grain had resulted. Figure 3 shows a portion of the wall of this abscess, whose fluid contents disappeared in the preparation of the sections. (The sections were all imbedded in celloidin, and no part of any section was lost either in the cutting or subsequently.) For some little distance above this level, the ganglion cells had all disappeared from the anterior horns, axis-cylinder process, nucleus and all; the places of a few cells being indicated by a granular corpuscle; for the most part the section showed a uniform round celled infiltration of the right horn, the left still retaining a few of its ganglion cells, though altered in character and surrounded by inflammatory exudation. In the dorsal region the ganglion cells are also altered in character, though few have disappeared, and it is only in the cervical enlargement and above this that we find them present in normal quantity and in character. This phrase, "altered in character," is based on their reaction with staining fluids, when contrasted with that of normal cells, as also upon indistinctness of outline, and partial or total disappearance of the nuclei. The English aniline blue-black was found most serviceable in thus discriminating between normal and altered cells. The normal ganglion cells readily take up this stain, assum-

ing a uniform bluish-black tint, with clear accentuation of the nucleus. The altered cells show a yellowish tint, which more and more completely replaces the blue color the greater the degree of cell change; this was evident from the gradual change from yellowish to blue as one proceeded from below upward. In the lumbar region the difference between the right and left halves of the cord was greater than at any of the upper levels, and in the cervical region the two sides seemed to be equally involved.

The anterior nerve-roots were, in part, included in the sections, and gave little evidence of any alteration. It is to be regretted that sections were not obtained of some of the larger peripheral nerve trunks, to determine the presence of descending degeneration, but I was unable to attend the autopsy and this point was overlooked; still the lesion in the cord was evidently the primary cause of both the motor paralysis and the trophic changes. The white matter of the cord, save for the congested condition of all its vessels, presented nothing abnormal. The Weigert stain seemed to serve best for the columns of the cord, the aniline dye for the ganglion cells and gray matter. The columns of Clarke were not involved in the inflammatory changes to any extent, other than could be explained by their contiguity to large vessels.

It would serve no purpose to enter more minutely into the microscopic appearances, as all the evidence necessary to establish the presence of an acute inflammatory condition of cord and membranes is here given, and the diagnosis of meningo-myelitis is thus plainly established.

The case had been presented to the class and lectured on as one of acute myelitis, and yet I must confess that I was not absolutely clear as to the condition that would be revealed by autopsy. I had supported my first impression by these data:

1. The presence of fever through the entire course of the disease.

2. The existence of sensory disturbance, as evident by the original pain in the back, the girdle sensation, and pains involving successively higher parts, as the disease progressed.

3. The occurrence of trophic lesions early in the course of the disease, as shown by the bed-sores over heel and sacrum.

As opposed to these were three strong clinical features that it was difficult to reconcile with the theory of an acute inflammation, and these were, firstly, the condition of complete muscular resolution presented by the patient; the absence of any convulsive movement, either tonic or clonic; the inability to obtain any clonus, and the diminished reflex responses, the reflexes soon ceasing entirely. It would be difficult to conceive a more perfect loss of muscular tone than was presented by this patient, and that, too, from the very outset.

The most profound sleep, the deepest coma, have not shown such total lack of all muscular support as was here manifested. While it was possible that a period of increased muscular irritability might have preceded the paralytic condition of the lower extremities before the patient came under observation, there was ample opportunity to study the involvement of the upper extremities from day to day; yet not at any time could we elicit an increased muscular response, nor could we detect the faintest involuntary contraction, fibrillar or otherwise. The second point to occasion doubt was the gradual progression of the disease from below upward, the progress being plainly traced with each successive observation. This conforms accurately with the recognized type of Landry's, or, as some authors choose to term it, acute ascending paralysis; and is not like the ordinary types of acute myelitis, where the damage seems to be done almost at the onset of the disease, followed by more or less improvement in a comparatively short time, as for instance, in the so-called essential paralysis of children. Thirdly, the age of the patient.

In Ziemssen's "Handbook" we find the following definition given for Landry's paralysis, from the pen of Erb. "An affection, characterized by an ascending motor paralysis, with or without febrile disturbance, usually beginning in the lower extremities, rapidly involving the trunk and upper extremities, and extending to the medulla; with these symptoms, there is little disturbance of sensibility, of the functions of the bladder and rectum, no particular atrophy of muscle, nor disturbance or diminution of electrical excitability."

Applying this to the case in hand, we find the paralysis as above, fever, little involvement of sensibility (the temperature sense alone being impaired), considerable disturbance, however, of the functions of the bladder and rectum. The electrical reaction of the muscles was, unfortunately, not tested.

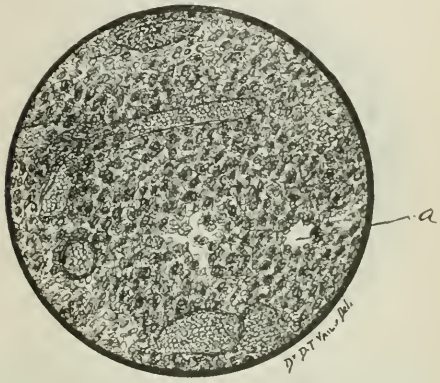


FIG. 4.—Anterior Horn, Gray Matter, Lumbar Enlargement, Left Side. Same section as Fig. 3; portion of cord corresponds to same level as Fig. 1. Total disappearance of ganglion cells, capillaries all densely packed with corpuscles, diffuse round-celled infiltration of gray matter: at *a*, free circular space, probably from destruction of a ganglion cell. 60 diameters.

A singular feature of the case, as is apparent from the history, was the integrity of the plantar reflexes, with absence of the patellar; I am unable to offer any explanation of this phenomenon. The strabismus, delirium, the ptosis, all point to an extension upward; possibly of the meningitis alone, so as to involve the nerve-trunks at the base of the brain, possibly of the inflammation of the central gray matter. Macroscopically there were no signs of basilar meningitis; the parts were not preserved for microscopic examination.

With reference to the landmarks signalled by Erb, we find very great diversity of opinion. Thus Allbutt says, where the power of the sphincters is retained, it is not true ascending paralysis. Petit, in *Gaz. Hebdom.*, 1887, says that the bladder and rectum are rarely involved, but affection of these parts is more frequent than the occurrence of bed-sores (Petit seems to be the only author who considers the possibility of trophic changes in Landry's paralysis).

Professor Schultze, of Heidelberg, in commenting upon the question of diagnosis, states that "while Landry's paralysis is generally termed 'acute ascending,' it need not necessarily follow this direction" (the well known case of Cuvier, the famous naturalist, began with dysphagia and presented a descending type); "there may or may not be disturbances of sensibility, and no one knows how much of a sensory lesion is necessary to rule the case out of the category of Landry's paralysis; fever may or may not be present; as to the condition of the reflexes, nothing positive is known, since, at the time of Landry's description, investigations of the tendon reflexes were not made. The electrical reaction is said to be normal; yet in a case of Westphal's it was absent in some muscles of the affected leg; in a case of Kahler and Pick it was generally interfered with; and as to the course

of the disease, we are equally without a guide, since it may terminate fatally or in the recovery of the patient. The most characteristic symptom is the gradual extension of the disease to the medulla, as indicated by bulbar paralysis and failure of the respiration." (According to Professor Schultze's description, our case would thus well deserve to be called a case of Landry's paralysis.)

"It need scarcely surprise us," says Professor Schultze, "if the autopsies of these cases show results equally divergent."

Westphal and Kahler found nothing abnormal in the cord; Leyden saw changes indicative of myelitis; Kümmell, in one case, observed an affection of the medulla, while Schultze himself in one case, found, as in ours, a

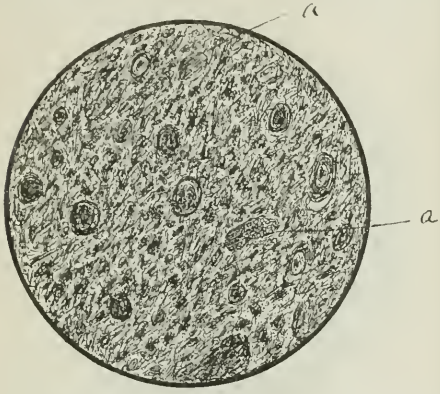


FIG. 5.—Right Anterior Horn, Gray Matter, Dorsal Cord, about Eighth Dorsal Vertebra. At *a*, ganglion cells, which have lost angular outline and nucleus, and have become very indistinct. The field is taken up largely by circular or oval granular masses, interspersed between which are round cells. The tissue presents under the microscope a general haziness, well represented in the drawing. 60 diameters.

meningo-myelitis; and it is still doubtful whether or not the peripheral nervous distribution may not contribute anatomical changes that have thus far escaped detection. For these reasons Schultze proposes, very justly we think, that the designation, Landry's paralysis, be dropped from our nosology, since the differential diagnosis between an extensive myelitis and the so-called Landry's disease cannot be made clinically; and depends altogether upon the post-mortem evidence of the presence or absence of microscopic changes. According to his suggestion, our present case would belong to the class of acute ascending motor paralyses.

Bernhardt likewise refers to the difficulty of diagnosis *intra vitam*, and shows that disturbances of sensibility may or may not be present, that there may be polio-myelitis anterior of mild intensity with preservation of normal electrical irritability, and that, per contra, with disseminated lesions of the antero-lateral columns, without much involvement of the gray matter, the electrical reaction is frequently lost. Schwarze reports a case ending in recovery, with absence of the reflexes, dysphagia, pain, and changes in electrical reaction, which he yet terms Landry's paralysis. I have been at some pains to trace the reaction as to reflexes, and have found it very inconstant. In our case, with persistence of the superficial plantar reflex, the deep patellar was wanting. In a case reported by Jaffé all the reflexes were lost, as also in the case of Schwarz and one reported by Hoffmann, while in the case of Rumff there was no affection of the tendon reflexes, while the plantar reflex was absent.

It may seem like useless reiteration of a point already well established to show that, as to sensory disturbances, there is the same uncertainty. An examination of the literature would seem to show that such perversions of sensibility may occur as preliminary to other symptoms, or during the disease, or may be wholly wanting. To quote merely from a few cases: in a patient of Mieth, there was a feeling as if the hands were washed in sand; in the case of Rumff there was acute sensory disturbance, both of muscle and of the skin; in Hoffmann's patient there was a feeling of great fatigue for some time preceding the attack, which was attended, at the onset, by formication in the thighs; in one case reported by Westphal there was numbness in the affected part; and in a case of P. Lévi's there were for two or three weeks, fatigue, prostration, and heaviness in the head, and formication in the toes.

With a clinical history as above detailed there is much to hold our interest in the question of pathology. What can be the nature of an affection which, selecting its subjects from the most vigorous period of adult life, between the ages of twenty and forty, seizes upon them without premonition, and quickly renders the strong man prostrate, more feeble and more helpless than the new-born babe; adding, if possible, to the misery of his situation by leaving him the consciousness of his own impotence, and, oft-times, of the irremediable nature of his malady? Surely, there is something in the mode of its onset that forcibly recalls the infectious poisons; how else can we explain the fatal issue that follows so briefly upon the development of the earliest symptom? Thus Pitres and Vaillard narrate a history of death within fifteen hours; Van d. Velden has described one case in which death took place thirty-six hours after the beginning of the attack; another is reported in the *London Lancet*, terminating in death on the third day, where the patient was at work three days before her demise. This analogy with the acute infectious processes had impressed many of the earlier observers; and attention has been called to the association of this form of paralysis with typhoid fever, malarial intoxication, variola, and influenza, and to the resemblance of many of its features with diphtheritic and alcoholic paralysis.

This last clinical fact led, naturally enough, to the search for peripheral nervous lesions, such as constitute

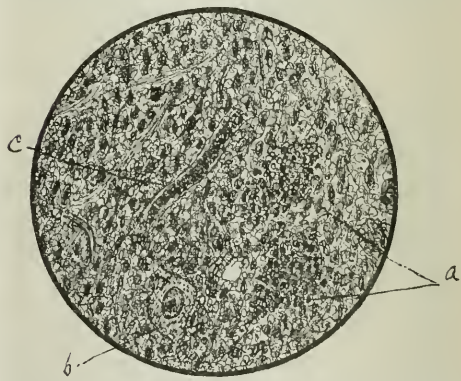


FIG. 6.—Anterior Horn (Right), Cervical Enlargement. Capillary congestion still evident. At *a* hemorrhages into gray matter; at *b*, ganglion cell, showing normal outline, nucleus, and nucleolus, but total obliteration of pericellular lymph space. Some round-celled infiltration also evident at this level of the cord. At *c*, injected capillary vessel. 60 diameters.

the anatomical basis for alcoholic neuritis; such lesions, too, have been found in acute ascending paralysis. Oppenheim has but recently called attention to this fact; Pitres and Vaillard earlier, expressed the opinion that the lesions were the same as in alcoholic paralysis, and Petit favors the view that it is a general peripheral neuritis of toxic origin. Hoffmann has found lesions not only of the gray matter, but swelling of the axis cylinders in the anterior and lateral columns and in the intra-medullary portion of the anterior roots.

Déjérine concludes that we are dealing with alterations in the anterior roots and peripheral nerves, like the changes observed after division of a nerve, the so-called "trau-

matic degeneration"; and Van d. Velden, who also noted swelling of the axis-cylinders and changes in the nerve-fibres, attributes these changes in the myeline to some infectious agent.

All authors seem agreed as to the infectious nature of the process; yet the search for an organized virus, or producer of a virus, has not succeeded in giving us a pathogenic bacterium or coccus; and yet it seems to us most likely that the solution of the etiology is to be found in this direction. It is but a short time since that the problem of the pathology of tetanus, whose anatomical substratum was far more vague and indistinct, has been satisfactorily settled by the discoveries of Brieger; and it is fair to infer that a similar success will attend studies in this direction, with reference to acute ascending paralysis.

Our own conclusions, based upon the investigation of this one case, and a careful study of the literature of the subject are:

1. The term "Landry's paralysis," as being wholly unscientific, should be dropped entirely, and the name "Acute progressive motor paralysis" substituted.

2. That by this term we understand an acute infectious process, a pathological entity, whose virus expends its effects primarily upon the gray matter of the anterior horns of the cord.

3. That, as in other intoxications, the economy may be so prostrated by the poison that time is hardly given for the anatomical changes characteristic of the affection, before the patient succumbs; hence, the inability to find notable lesions in cases of very short duration.

4. That, in cases of longer duration, lesions characteristic of inflammation of the gray matter and of the cord can generally be met with, in the form of inflammatory stasis, perivascular infiltration, microscopic hemorrhages, swelling of the ganglion cells, of the axis-cylinders, and destruction of ganglion cells; the intensity of the lesion usually being greatest at the point first involved; *i.e.*, the lumbar part of the cord. It is, however, to be borne in mind that, as in the case of diphtheria, the local manifestation is not necessarily initiated at any one part; so that we may have exceptional instances in which the process begins above and extends successively to lower levels.

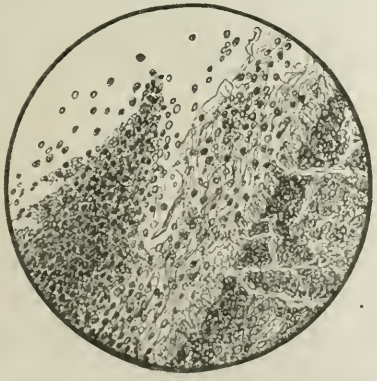


FIG. 7.—Shows Participation of Meninges in Inflammatory Process. Taken from same specimen as No. 6 in neighborhood of posterior root. Swelling of membrane, separation of fibres, round-celled infiltration, with a considerable hemorrhage at left of the field. 60 diameters.

5. That, secondary to changes, anatomical or molecular, in the ganglion cells of the anterior horns of gray matter in the cord, or their congeners in the medulla, lesions are found in the peripheral motor nerves, comparable to those which follow the separation of every nerve fibre from its ganglionic connection; and these lesions are to be ascribed to disturbances of nutrition of the ganglion cell itself.

Such state of impaired nutrition may be but transitory, leaving the ganglion cell in condition easily to recover; and yet, may cause more gradual and more lasting disturbance in the nerves coming from the cells. This would explain the pathological anatomy of cases in which the cord has been found healthy and the peripheral nerves have shown decided alterations.

6. That, while sensory disturbances are not the rule, they occur too frequently to be considered exceptional, and are probably due to the altered condition of circulation in the cord, incidental to the inflammation of the anterior horns, or may be ascribed to an extension of the inflammation in the gray matter to the posterior commissure or posterior horns, by mere contiguity of tissue. (At some levels minute hemorrhages were found in the posterior horn. They were always small in extent, and not surrounded by

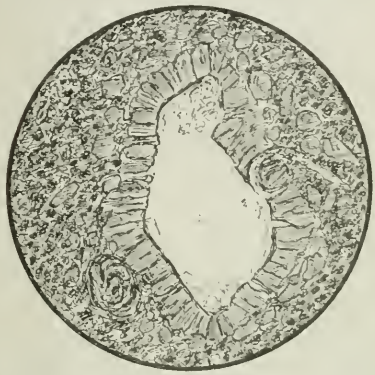


FIG. 8.—Central Canal, Dorsal Region. Same section as Fig. 5, as shown to prove that the indistinct outlines in gray matter are due to disease, and not to defective hardening. Cylindrical character of epithelium and individual cells clearly shown. 160 diameters.

the signs of active inflammation, as in the anterior horns of the same section.)

7. That a meningitis confined to the pia, and not of sufficient intensity to lead to plastic effusion, frequently accompanies the process in the cord.

8. That the affection is commonly fatal, but not necessarily so, and it is wrong to make the diagnosis contingent upon the fatal issue. When death occurs, it has been found in nearly every instance to depend upon embarrassment and final failure of the respiration, occasioned by the extension of the process to the ganglion cells directly concerned in the innervation of the muscles of respiration; especial importance being naturally attached to the cells giving off the root-fibres of the phrenic nerve.

9. That the absence of trophic lesions in the majority of cases is to be explained by the rapid course of the more severe cases, or by the fact, that an attack of milder severity does not lead to extensive destruction of ganglion cells. Trophic lesions may occur, as above conclusively shown by our own case.

10. That age, in a measure, seems to be a predisposing factor, the two decades between twenty and forty showing the largest number of cases; children and old people have, however, furnished some examples.

11. There seems to be no connection, as far as known, between this affection and any previous syphilitic infection.

12. The closest analogy exists between this affection and acute polio-myelitis of children; the difference in results is susceptible of ready explanation. In the myelitis of children the intensity of the poison is expended in a very limited area, from which cause there result complete destruction of ganglion cells, with subsequent paralytic and trophic symptoms, that are liable to be lasting through life. In acute progressive motor paralysis the affection invades the entire cord, and, consequently, is less apt to produce destructive changes in cases of mild in-

tensity; so that, when recovery occurs, we see little of its effects subsequently. In the more severe cases, from the tendency to involve centres of respiration, the permanent nutritive and paralytic symptoms are anticipated by the death of the patient.

CRANIECTOMY FOR MICROCEPHALUS.

By JOHN A. WYETH, M.D.,

PROFESSOR OF SURGERY, NEW YORK POLYCLINIC; SURGEON TO MOUNT SINAI HOSPITAL.

CASE.—Male child born at term, February 2, 1890, normal labor, without deformity, weighed nearly six pounds. First child of parents about twenty-five years of age, both healthy and of normal development. The mother noticed that when her baby was four weeks old the throbbing in the anterior fontanelle ceased. Beyond this nothing unusual was observed until the third month, when the child had whooping-cough, and became very nervous, screaming as if in pain, and extremely wakeful. The attending physician informed the mother that the "soft spot" on top of the head had closed by ossification, and that the trouble was due to compression of the brain. In July morphia and chloral were given to secure sleep, and this was continued for some months. September 27th, at 11.30 A.M., he was seized with a cataleptic attack, and remained motionless and "as if dead" until 1 P.M. Following this attack the feet were drawn inward (talipes equino-varus), the left foot most affected, the left hand was also slightly flexed.

By November 21st he had improved so much that the opiates were discontinued, and the child immediately began to take on flesh and grow. The cranium, however, did not expand. January 1, 1891, he came under my care, through the courtesy of Dr. T. S. Galbraith. At this time he presented the appearance of a fairly nourished child of eleven months. The face was fat and rosy, the cheeks fat, and the face well developed. The cranium was small, about as large as that of an ordinary two-months-old infant, and sharp-pointed. The eyes moved convulsively at times, pupils dilated, did not seem to appreciate objects, and had a dull look, as if indifferent to everything around it. The hands and arms did not move co-ordinately to grasp proffered objects, but were chiefly engaged in jerky movements toward the mouth. When the thumb by one of these manœuvres slipped into the mouth it would remain there, and he would suck at it for a while, until by a spasmodic movement it was displaced, when the effort to replace it would be renewed. The chest and abdomen, genitals and thighs, were to all appearances normal and of full development. Legs somewhat small, and talipes equino-varus on both sides, less marked on right.

Encouraged by the report of Lannelongue's case, a notice of which only I had seen in an editorial in the MEDICAL RECORD, I advised operation, and on January 7, 1891, carried out the following procedure:

Chloroform; head shaved; antiseptic details. Incision in median line from near base of nose to just beyond occipital protuberance. Pericranium pulled aside to expose skull for about one inch on either side of median line; cranial bones firmly ossified. No interosseous cartilage observed. Small trephine applied, and two long trenches made with rongeur, one-quarter inch wide, and extending from just above the eyes to the occipital protuberance, leaving a bridge three-fourths of an inch wide to protect the superior longitudinal sinus in its entire length. I then, at either end of these two trenches, cut out laterally one inch, and with bone scissors divided the parietal bones for one inch and a half in the middle of the top of the head, cutting perpendicularly in the direction of either ear. I now inserted my four fingers beneath each half of the exposed skull bones and tore these loose from the dura mater, raising them freely and thus widening the trenches to one inch each. The dura was not opened. Catgut ligatures. Catgut soft wisps inserted for drainage on either side from front to back, between skull and dura. Irrigation with 1 to 5,000 bichloride. Pericranium stitched in middle line with catgut. Aseptic dressing. Patient sank under the chloroform early in operation, and the anæsthetic was discontinued; completed without narcosis. Time, one hour and thirty minutes. Rallied well. By January 10th some improvement in intelligence was noticed. On the eighth day it was very evident. The child noticed those about it, and the eyes followed moving objects. It would grasp the hand when offered, and slept without narcotics. Ate fairly well. Wound dressed on tenth day, and united by first intention without suppuration.

Patient left the city for its home on sixteenth day after operation. The inversion of the feet is much less noticeable, and the jerky movements of the hands are no longer so well marked. In a letter just received the mother writes: "The baby is much improved. He notices everything just as all babies do. I can notice such a change in him."

I saw the child one month after the operation and the change in its condition was surprising and gratifying. The deformities in the extremities had entirely disappeared and there was evidently a remarkable increase in intelligence. It noticed those about it, took hold of objects offered it, laughed, and behaved much as children of ordinary development at six or eight months. The pupils were no longer widely dilated but appeared normal. It eats and sleeps well and is in general greatly improved as a result of the operation.

The operation differs from any yet done. Lannelongue, Keen, and others cut a trench about a quarter of an inch in width, and on one side, at a single operation. It seemed to me if the brain was penned in by premature ossification of the cranial bones, these should be torn loose and permanently lifted, thus allowing a thorough expansion. Should only temporary benefit be secured, the operation should be repeated. Experience alone can demonstrate whether the expansion of the brain will be able to spread the cranial bones to such an extent that it may reach even an ordinary development. The condition of these patients is so hopeless and deplorable that, in my opinion, very great risk is justifiable in any surgical interference which offers even a hope of amelioration.

AN ABDOMINAL TUMOR IN A MALE.

By CHARLES E. WOODRUFF, M.D.,

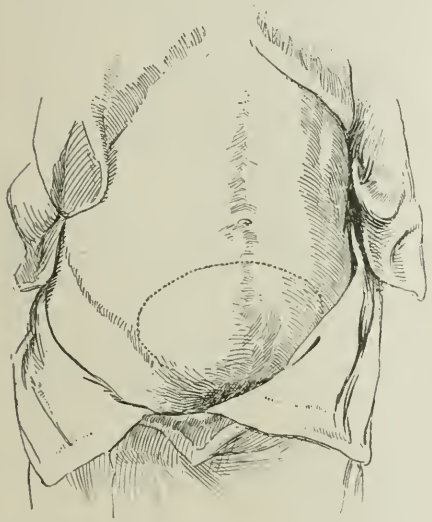
ASSISTANT SURGEON, U. S. ARMY, FORT GASTON, CAL.

ON September 14, 1890, T. G——, aged fifty-nine, miner by profession, presented himself with the following history: Until five weeks ago he had been perfectly well, with the exception of frequent micturition, which dates back several years and which is probably due to an uniformly enlarged prostate. He has been a drinking man, has had occasional sprees for the last thirty years, and now presents an aged appearance beyond his years, common to men of his habits. He has always been gaunt in appearance, though muscular. His abdomen has never protruded, but, on the contrary, has usually been retracted as in men of his build. About five weeks ago he went to bed perfectly well, but was wakened by a chill which persisted until morning. On rising he noticed a slight swelling in the right side of the hypogastric region, about the size of his fist. The swelling gradually enlarged, until in thirty-six hours more it reached almost to the sternum. It was not painful, except to a slight extent on pressure, but gave a feeling of uneasiness, which was relieved by lying on his back with his thighs drawn up toward his abdomen. The uneasiness was more marked at night than during the day, and exists at present only slightly toward evening. He has always slept well, and has not been confined to his bed a single day. When the swelling was at its greatest there was some vomiting, which per-

sisted two or three days, and was followed by a diarrhœa lasting two days, with dark, offensive stools. During this period he also noticed that he could not inflate his lungs with the usual degree of satisfaction, but had the feeling as though he could not get enough air, though no actual dyspnœa ever appeared. At the present time he occasionally takes a long, deep, sighing respiration, as though the act were still interfered with.

After a few days the swelling began to subside slowly but continuously, until at present it is of the appearance shown in the accompanying photograph. The swelling has always extended more to the right side.

Owing to lack of appetite, he became thinner than usual and somewhat weakened, but as soon as some strength returned he began his forty-five mile walk over rough mountain trails to see the doctor. He made but little distance during the first few days, but noticed that his appetite at once began to increase, and now, at the end of the fifth day, he eats well, sleeps well, and beyond the



uneasiness at the lower part of the abdomen he feels as well as ever.

A thorough examination reveals the following conditions: The lungs are normal throughout. The heart presents one peculiarity, namely, a well-marked double first sound, but in all other respects nothing abnormal can be detected. The liver dulness is but one-half of what it should be. There is no ascites. The splenic dulness is normal. In the abdomen there is an area of flatness in the hypogastric, umbilical, and right inguinal regions, corresponding in outline to the ink mark on the abdomen, as shown in the photograph, which also shows the protruding condition of the abdomen. This area is about seven inches long and six wide, the long axis extending obliquely downward and to the right, into the right inguinal region. On palpating, a slight pulsation can be detected, most probably being due to the transmitted pulsation from the abdominal aorta and iliacs. The area of flatness corresponds to a tumor with smooth surface, giving fairly well-marked fluctuation and movable transversely to an extent of about an inch and a half. Auscultation reveals nothing whatever. Posteriorly the area of flatness over the left kidney is slightly increased, but over the region of the right kidney, instead of flatness on percussion, there is a dull resonance over part of the area, and a tympanitic sound over the rest. The urine is in fair quantity, absolute measurement unknown, no albumin, no casts. The bladder contained about one ounce of urine at the time of the examination, and this was drawn off by a catheter.

The diagnosis of this interesting case was at first in great doubt, but on the supposition that the patient had a floating kidney a fairly good diagnosis may be made. The above supposition is not too much to assume considering the facts that the right kidney, if one exists, is not now in its proper place, that the tumor has always tended toward the right side, and that the floating kidney usually is from the right side and may exist for years without symptoms. The cause of the rapid increase in size of the kidney, assuming that the tumor really is the right kidney, presents further difficulty. Hydronephrosis may have existed in the right kidney for a long time without symptoms, as is usually found to be the case in this disease. The movements of a floating kidney must give numerous opportunities for compression or twisting of the ureter, thus obstructing the flow of urine and giving rise to hydronephrosis. The diagnosis of hydronephrosis in a floating kidney, or rather displaced kidney, seems to fit the case fairly well, except for the enormous and sudden increase in size which occurred five weeks ago, yet even this fact may be in favor of the diagnosis. It is by no means certain that the kidney did enlarge so rapidly as it appeared to. It may have been enlarging for a long time and have been quite large five weeks ago, without the patient's knowledge. Suddenly settling itself in the lower part of the abdomen it may have given the appearance of having arisen during the night. Again, it is not certain that the tumor did enlarge so as to reach nearly to the sternum. A feeling of distention and a displacement of the intestines upward may have given the feeling to the patient that the tumor had really extended that far. The increase and then diminution in the size of the tumor really supports the diagnosis of hydronephrosis, for such a course is not unusual in cases of this affection. The apparent enlargement of the left kidney points to the fact that the right kidney is disabled. The differential diagnosis between hydronephrosis and hydatid cyst of the kidney is impossible in many cases; but in this case it is reasonable to exclude hydatid, from the fact that the diminution in the tumor was not accompanied by anything abnormal in the urine, and the further fact that the bowel affection seemed to have had no effect upon the size of the tumor. The movements of the bowels have been normal in frequency and appearance since the slight attack of diarrhœa, and there is no certainty that contents of an hydatid cyst have escaped by any channel. The only tumor which is usually confounded with either hydronephrosis or hydatid is ovarian cyst, which of course does not enter into this case. The entire absence of any marked illness or fever excludes inflammatory affections, and it is hardly possible that an aneurism now full of fibrin could have enlarged to so great an extent without producing prostration. Indeed the rapidity of the increase in size seems to exclude aneurism.

Should we, then, be dealing with hydronephrosis, we have a rare combination, for I can find but one reference to the possibility of hydronephrosis occurring in a floating or displaced kidney. The case is still more interesting from the fact that both diseases or conditions are generally found in women, their appearance in men being the exception to the rule.

Indican in the Urine of Children.—According to Dr. Hochsinger, indican is usually not present during the period of lactation, but a trace of this substance is found in children artificially fed. In breast-fed children indican is entirely absent. Simple dyspepsia and diarrhœa and also habitual constipation in nursing children and young children do not produce this body in the urine. Cholera infantum and chronic diarrhœa result in its formation. When primary intestinal lesions and septic infection are excluded a considerable amount of indican points to the presence of tubercular disease. Children older than nurslings show the same reaction to tests for indican as adults.—*Wiener medicinische Presse.*

Progress of Medical Science.

The Diagnosis of Pulmonary Cavities in Children.—Dr. Aldibert calls attention to the untrustworthy character of the physical signs of pulmonary cavities in children. Dulness, cavernous breathing, gurgling, and the cracked-pot sound may all be present in cases not only of pleurisy, acute and subacute, but also in acute pneumonia. On the other hand, the most careful auscultation and percussion may fail to discover any signs of even large cavities proved to have existed by post-mortem examination. He also points out that the localization of physical signs at the apices is not, in children, evidence of their tubercular nature. Several well-observed cases are recorded, and his conclusion is that the signs of pulmonary cavities in children must be interpreted with the greatest reserve.—*Revue des Maladies de l'Enfance.*

Gonorrhœal Salpingitis. — Dr. Terillon states that gonorrhœal salpingitis presents three modes of invasion: 1. Acute vaginitis, followed by endometritis, and finally by salpingitis. 2. Mild vaginitis, sudden development of pelvic peritonitis, the early symptoms of salpingitis. 3. Absence of vaginitis, uterine and tubal gonorrhœa. The first two varieties are due to infection with the virus of an active gonorrhœa; the third variety to the virus of an old or latent gonorrhœa. Salpingitis, according to the statistics of Fournier, occurs in one-fifth of all cases of gonorrhœa in the female. When the disease is limited to the mucous membrane of the tubes, and but little pus is formed, the prognosis is favorable. At the menopause all symptoms generally disappear. It must be remembered, however, that even in this relatively benign form life may be endangered at any moment by the sudden development of peritonitis. But suppuration with encystment is more frequent than this simple catarrh. The pus sac may rupture either into the uterus or into the rectum, or, far more frequently, into the peritoneum, provoking a fatal peritonitis. A similar peritonitis may develop before any accumulation of pus in the tubes, from mere extension. In non-encysted cases a small quantity of pus may escape from the tube, producing a local peritonitis with the formation of false membranes, which constitute a protective envelope. This may rupture at some point with a similar result, and so on, even fifteen or twenty times, as Terillon has observed, constituting a relapsing peritonitis. Gonorrhœal salpingitis is nearly always double, and consequently entails sterility.

The treatment of salpingitis is both medical and surgical. Of curetting it may be said, that if justified by the endometritis, it has no influence on the tubes. Medical treatment is wholly symptomatic. Rest in bed, with hot-water vaginal irrigations for pain; revulsives, either blisters or punctate cauterization, possess marked resolvent power. Constipation, which always accompanies the disease, should be relieved, and peritonitis should be combated with appropriate measures. These means may alleviate or even cure the peritonitis, but they cannot eradicate the basic disease, which may, at any moment, unexpectedly assume an alarming form.—*Bulletin Médical.*

Massage in Fractures.—Dr. Crickx, of Brussels, advocates the treatment of fractures by massage instead of by plaster-of-Paris bandages. Although massage has been practised successfully in such fractures as those of the humerus and tibia, it is especially suitable for fractures of the fibula and radius. He commences by effleurage with centripetal movements, avoiding for the first few days the seat of the fracture itself. An increase of pain sometimes occurs, but should not alarm the surgeon or induce him to desist from the treatment. After a short time the movements are increased in force. After about ten days pétrissage of the muscles may be commenced. All this time the limb is kept without a splint, or simply laid in a hollow back splint of pasteboard. The massage is continued until the cure is complete. In addition to the cases mentioned above, massage may be usefully adopted in fractures of the patella, olecranon, and of processes such as the epitrochlear and the styloid. Dr. Lebrun also reports several cases of fracture in which massage was employed by himself or by his house-surgeon with considerable success. In one of these, where a man had missed his footing in attempting to get on a car, and had sustained a fracture of the fibula, together with a sprain and effusion of blood under the skin, the leg was first put up in a starch bandage, but was so painful that after a few hours this was taken off, and massage practised, which afforded immense relief.—*La Clinique.*

Trephining the Spine.—From a painstaking study of this question Dr. Chipault has announced the following conclusions: 1. Trephining is useless when after the cord is contused the displaced fragments fall back on to their normal position. 2. Trephining is certainly of use (*a*) when the cord is pressed between the body and the posterior arch; (*b*) when the cord is compressed by blood clots. Under these two conditions no time should be lost, since secondary degeneration sets in very rapidly. 3. Trephining is absolutely indicated (*a*) when the spinal symptoms are due to compression of the cord by fragments posterior to it; (*b*) when there is a compression of the cauda equina, whatever its cause may be. operate at the end of some months after the condition has remained stationary for some time.—*Gazette des Hôpitaux.*

Siphon Drainage in Empyema.—Dr. Bülau advocates siphon drainage in preference to simple incision, or the resection of ribs in the treatment of empyema. Siphonage has got into disrepute with certain authorities, not because of its own defects, but because it has not been properly applied. Several cases are quoted to show the kind of results that may be obtained by means of siphonage if used carefully, one of which illustrates two facts of considerable importance. It proves conclusively that the lessening of the pressure within the pleura is an active factor in the re-expansion of the lung, and also that a lung is still capable of being thus re-expanded after having been subjected to pressure and consequent inactivity for a period of fifteen months. The application of siphonage after the chest has already been opened and drained by simple incision is also proved to have been successful in aiding the re-expansion of the compressed lung. He advises that the skin should be nicked with a scalpel before the introduction of the trocar, and that a tube should be passed in through the cannula, the latter being withdrawn over it. The tube being then firmly secured to the side and sealed to prevent the entry of air, the slow escape of the fluid through a siphon attached to the tube is followed by a corresponding expansion of the lung. This result is, of course, modified by the adhesive and other changes that may have taken place in the pleural layers, but it is claimed that in such cases expansion is equally impossible under all forms of treatment. The possible blocking of the tube by coagulating fibrin, etc., is not regarded as a serious defect in this system of drainage, as it can generally be got over without difficulty. Nor is the nipping of the tube by the ribs or healing tissue a matter of importance. When re-expansion has taken place to a considerable extent the siphon arrangement may be discontinued and a short tube left in, guarded at its orifice with a valvular covering of gold-beaters' skin, to permit the exit of fluid but not the entry of air. As a general guiding principle of treatment, Dr. Bülau maintains that if the same result can be got by simple means, such as siphonage, the more serious measure of resection of ribs cannot be justified.—*Zeitschrift für klinische Medicin.*

The Medico-legal Value of the Gonococcus.—Professor J. Kratter describes some cases of vulvo-vaginitis in girls where a positive diagnosis was only made after finding the micro-organisms in the discharges. He concludes

as follows: 1. The decision whether or not a vaginal discharge (after rape) is traumatic or infectious can only be arrived at after a bacteriological examination. 2. The detection of gonococci in such a discharge is proof positive of the presence of gonorrhœa, which has probably been conveyed in the sexual act. 3. The negative result of such an examination does not justify one in absolutely excluding gonorrhœa, as there are cases of undoubted gonorrhœa in which few gonococci are found, and only after repeated examinations.—*Berliner klinische Wochenschrift.*

The Preventive Treatment of Sympathetic Ophthalmia.—Sympathetic ophthalmia includes the different pathological conditions which may arise in a healthy eye, in consequence of changes in the other eye arising from a traumatic or spontaneous cause. Dr. Rolland gives the following spontaneous causes: Irido-choroiditis, anterior synechiæ, staphylomata, tumors, and ossification of the choroid, tuberculosis of the iris, panophthalmitis without external wound, dislocations of the lens, glaucoma, hydrophthalmia, detachment of the retina, entropion, symblepharon, cysticercus, and herpes zoster. Although the author makes no distinction in the mode of production of sympathetic neurosis and inflammation, he evidently considers the first as an early stage of the second; therefore conditions which cause the first must, according to him, be capable of causing the second. He holds that transmission to the second eye may take place along any of the various channels that have been suggested, and the cases probably differ in this respect, that as there are no means of telling in a given case which is the conducting channel, enucleation, which interrupts them all, is the only safeguard. The following are his conclusions: 1, When an eye, lost from any cause, is the seat of continuous or intermittent tenderness, or is in a condition of acute or chronic inflammation, it may give rise to sympathetic affection of the other eye, and enucleation is called for; 2, enucleation should be had recourse to on the earliest appearance of sympathetic symptoms; when irido cho roiditis, with exudation, has already occurred it is seldom effectual; 3, when an eye has been destroyed by an injury, immediate enucleation should be performed, the patient being thus protected from the pain of the inflammation in the injured eye, and from all risk of sympathetic affection of the sound eye.—*Recueil d'Ophthalmologie.*

Creolin in Erysipelas and Eczema.—Dr. Rothe has used in the treatment of erysipelas a creolin ointment containing creolin, 1.5; cret. præp., axung. porc., āā 15.0; ol. menth. pip., gtt. v. This is spread in the thickness of the blade of a knife over the diseased parts twice or three times a day, a thin layer of cotton wool being applied as a covering. In from twelve to twenty-four hours improvement was always apparent, and the disease was cured in three or four days. The same ointment also did good service in a case of weeping eczema of the face, as also in several cases of eczema in children. A patient suffering from scabies was treated with a thorough washing with soft soap and inunction of this ointment, with such a decided effect that Dr. Rothe considers creolin to be undoubtedly a specific for the disease.—*Memorabilien.*

Notes on the Radical Cure of Hernia.—Statistical notes of cases of hernia treated by Billroth, are published by Dr. Haidenthaler. They comprise 136 cases of inguinal, femoral, and umbilical rupture in both sexes. In 93 cases an operation had been performed, while in five instances the patients were treated by injecting alcohol into the sac. The operation employed was Czerny's, and consisted in ligaturing and removing the neck of the sac, and uniting the deep and superficial parts of the wound with silk sutures. The mortality in the non-strangulated cases was between six and seven per cent., and the causes of death when it occurred were entirely of septic origin. As to the final results, they were mostly true cases of radical cure, though occasionally the herniæ returned, in one instance six years after the first operation, and in three cases after a lapse of five years. The cases of alcoholic injection of the sac seemed at first to yield excellent results, but they were not permanent. The surgeons owed a great deal of the success of their operations to the thickness of the silk ligatures. The stouter ones seemed to hold the edges of the wound longer in apposition, hence the success which it seems to yield.—*Centralblatt für Chirurgie.*

Electro-puncture in Chronic Hydrocele.—According to Dr. W. Zuelzer this method of treatment, from which so much has been expected, has gradually lost ground, owing to the fact that recurrences took place in the vast majority of cases in which it was employed. Among the author's cases permanent recovery was observed in only one instance, although the application was made twice. He thinks, however, that the method is applicable in cases where the patient is so greatly debilitated that irritant injections or the radical operation are contra indicated. Electro-puncture is preferable to simple puncture, in that it is free from any ill effects; and this is due to the fact that the absorption of hydrocele fluid takes place slowly and gradually. The author employs two platinum needles, which are coated with an insulating layer up to the point. Both are inserted, as far apart as possible, into the sac of the hydrocele, connected with a constant battery; a current having a strength of three, or at the most four, milliampères is passed through them. The sittings should not exceed two to two and a half minutes. During the application active vermicular contractions of the scrotum are observed. The pain is inconsiderable if the current is not passed through for too long a period. In many cases after the removal of the needles, and careful closure of the punctures, a gradual diminution in the size of the tumor ensued. Occasionally œdema of the scrotum occurred during the first few hours, which rapidly disappeared. Within eight days the fluid has been entirely absorbed, and by the employment of proper bandages and a snugly fitting suspensory its reaccumulation can be prevented for a long time—in some of Zuelzer's cases for as long as six months. One of the advantages of the method is the rapidity with which it excites absorption, the quantity of urine being materially increased during the first twenty-four hours after the operation. In all the cases the inner surface of the sac was found covered with coagula as early as the first day, so as to be no longer transparent, and even when the fluid reaccumulated the characteristic translucency was never as marked as before.—*Journal of Cutaneous and Genito urinary Diseases.*

Myxœdema Relieved by Thyroid Grafting.—The disappearance of the thyroid body is a common feature in all cases of myxœdema. The removal of the thyroid produces in animals conditions analogous to those of myxœdema in the human being, while the trials of grafting the thyroid has so far succeeded in animals as to warrant its trial in man. M. Walther undertook grafting in a recent case. The patient was almost a dwarf (height about four feet), but with perfect intelligence. Myxœdema appeared at the age of thirty years, having been preceded during the previous ten years by frequent uterine hemorrhage. She was also subject to epistaxis and bleeding from the gums. When these hemorrhages occurred the symptoms of the myxœdema increased. The patient was received on account of the uterine hemorrhages, which resisted ordinary treatment. M. Walther grafted a portion of a sheep's thyroid in the submammary region. The wound healed by first intention. Three days subsequently the hemorrhage ceased, and had not recurred. Improvement of the general health followed. From these facts it would appear that the thyroid body performs an important part in blood-making. In this case there was an increase of red globules. The quantity of urea in the urine also became increased. Briefly, the patient recovered health. The grafted thyroid disappeared, probably by simple atrophy.—*Le Progrès Médical.*

MEDICAL • RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & Co., Nos. 56 and 58 Lafayette Place.

New York, February 21, 1891.

NEW YORK CITY CHARITIES.

THE fourth edition of the directory published by the Charity Organization Society, suggests some thoughts on the general subject of charitable aid, and especially that form of it pertaining to medical treatment. From the valuable index of the volume we discover that there are under the heading of asylums thirty-seven entries; dispensaries, sixty-two; homes, one hundred and seventeen; and hospitals, seventy-three. There are in all these lists the names of institutions of which we have never even heard, much less known anything about. Yet although they are mentioned in this particular volume we need not necessarily admit their claim to recognition as worthy of support. There are, as is noted in our reviewing column, organizations for supplying everything from beef-tea to moral aid.

The work of the Charity Organization Society has always found a defender in the columns of the RECORD. We have always believed, and still do, that along the lines of its efforts lies the true solution of the problem of aid to the sick. This question will never be settled until it is settled rightly, and the first step toward such a settlement must be the determination of who are worthy and who are unworthy of such aid. This distinction the Society endeavors to make, and its work has been carried to such a degree of perfection that the career of the professional mendicant who is able to care for himself is generally brief and his end inglorious.

The title page of the volume bears the motto, "United, an army; divided, a mob." This naturally suggests the inquiry, Are our institutions as an aggregate under any discipline in their relations to the public, or are they under mob rule? We are glad to believe that the former is true. It is also true that certain classes of our institutions, notably some of the dispensaries, suggest a mob in their eager rush after patients in order to make out a large number treated, and to produce a corresponding pride in the managerial bosom, but this exception only proves the rule.

We note in the preface of the book these words: "Societies and institutions have necessarily been included of whose utility and wise management grave doubts are entertained by some persons," and "the omission of any society from this volume does not necessarily discredit it," but it is believed that every worthy organization receives mention unless it has been organized since the book went to press.

Will not some of our public-spirited citizens place the Society on a sounder financial footing? It is greatly hampered in its works by a lack of funds. It does not ask for the privilege of distributing the money of the charitable; but it simply aims to prevent them from being imposed upon. And so full is the information that it freely gives that no one who finds himself victimized has any excuse.

MEDICAL EDUCATION.

THE advancement of the standard of medical education has developed into a movement which has caught the attention of the better part of the entire profession. Very small and puny it was when in 1868 the Chicago Medical College started the ball rolling by adopting a three years graded course of study. Slowly but surely, however, the movement grew in popularity. Numerous States founded boards of examiners, and several organizations were established whose aim was to advance medical education and suppress fraudulent practitioners. Within the past ten years the advance has been rapid, as will be seen by the following figures: In 1882 only 45 colleges in the United States and Canada required educational qualifications for matriculation; now the number is 129. Of 148 medical colleges, 123 now teach hygiene and 119 teach medical jurisprudence. In 1882 these branches were taught in 52 and 61 colleges respectively. In 1862 and 1863 the average length of the lecture terms was 23.5 weeks; the average is now 26.3 weeks. There are now 111 colleges that have lecture terms of six months or more, while in 1882–83 the number was 42.

In some of the largest universities in this country courses preliminary to the study of medicine are offered—the University of Pennsylvania, Cornell, Yale, Princeton, Lake Forest, and Northwestern universities. Johns Hopkins, and the University of Wisconsin; while Harvard and Columbia have made arrangements by which those intending to study medicine can take a special A.B. course in three years. The movement for four years' study of medicine and three courses of lectures is an assured success. During the past year the list of colleges that now require or will require within one or two years more courses and time of study has grown considerably. There are 34 colleges requiring four years study and three courses of lectures, 11 requiring four years study, 4 requiring four courses of lectures, and 17 will require three courses of lectures in the fall of 1891. Thus the list of colleges in the United States that require but two courses and have no provision for longer study is reduced to 21. Before 1868 there were none. A number of States will not permit physicians to practice within their limits unless they have attended three courses of lectures. The percentage of graduates to matriculants was 35.8 in 1881–82 and 30.1 in 1890. The percentage in Canada has not reached twenty-four in ten years. These figures are signs of a rapid advance in the last few years, an advance that is sweeping all opposition before it. Dr. John B. Rauch, Secretary of the Illinois State Board of Health, in his admirable report from which the foregoing statistics emanate says, "The movement for a higher standard of medical education has now acquired

a momentum that will probably result in the control of medical education and the regulation of medical practice in every State and Territory (except, perhaps, Alaska), during the present decade. The indications are that in the course of another year at least 100 colleges in this country will require four years study."

The practical lesson of these facts is that every practitioner should do all in his power to help the cause along. One thing all can do, and that is use their influence to obtain the passage of good medical practice acts and their subsequent enforcement. Connecticut, Kansas, Maine, Maryland, Massachusetts, Ohio, Rhode Island, Texas, Utah, and the District of Columbia, either have no law whatever governing the practice of medicine, or else the law is inoperative. Arizona, Delaware, Georgia, Idaho, Indiana, Michigan, Nebraska, Nevada, and Wyoming require simply a "registration of diploma" with some county or State officer. Let the medical men of any of the above States read the medical practice acts of Minnesota or Illinois and then their own, and see how far behind the times their respective States are. It may be an incentive to work.

THE EXPERIMENT WITH THE DOG.

The novel experiment of grafting a bone from a dog to that of a human being has naturally commanded a great deal of attention in medical, as well as lay circles. In the latter, however, it has received even more than its share of notice from anti-vivisection enthusiasts, who have circulated absurd sensational reports concerning it in the daily press. Whatever publicity has been given to the operation, it is due to the experimenter to say that he has been in no way, directly or indirectly, connected with it. With an honest and humane purpose of benefiting a hopeless cripple, and with a becomingly tender regard for the lower animal, Dr. Phelps determined upon a new departure in surgery, the results of which are given elsewhere in our columns. He had, apparently, sufficient grounds after careful investigation of the issues at stake to warrant a trial of his theory. Notwithstanding actual union of bone with bone did not occur, such a possibility, with different conditions and surroundings, is reasonably hopeful. In this particular instance sufficient time was not allowed for the completion of such a process. An interesting fact, however, was that the soft parts promptly responded to the effort, and demonstrated not only that tissues of different species could be made to unite, but that a circulation could also be established between animals of different species without danger to either.

The application of the principle to reparative surgery is one which may open a field for future study and experiment and may result in wide ranged usefulness to humanity. The possibilities in these directions obviously cannot yet be determined, until better means and opportunities are afforded to secure the end. If, hoping beyond this, we can look forward to a corresponding union of more solid parts, if bone can be made to grow to bone, the advance in the treatment of ununited fracture will be pronounced and radical. In view of the good that may accrue from success in similar trials they should not be abandoned merely to satisfy the demands of the so-called humane societies. The charge of cruelty to animals no longer applies to experimentation in these directions. Even in the instance in question, which has been so severely and unjustly criticised by the sensational press, the operation was earnestly solicited by the patient. The animal from beginning to end suffered no pain, nor appreciable discomfort aside from restriction of movements.

It is true the dog lost a paw, but it was in a worthy cause. The value of a dog's leg compared with that of a human limb and possibly a human life, should not admit of any argument. If we contrast the care for the comfort of the animal with the treatment which she might receive upon the street, with the ruthless dog-pound at the end of her career, there can hardly be a question that she received the merited reward of a higher and nobler mission than that of a simple cur born to be kicked, starved, and finally choked.

PHTHISIS AND THE BACILLUS.

Drs. Heneage Gibbs and E. L. Shurley have recently published their views again with regard to the nature and treatment of phthisis pulmonalis. These gentlemen, as is known, feel some doubts as to the bacillus being the essential factor in causing this disease, or at least certain forms of it. We cannot find, however, that they yet have reached a very definite stage in their inquiry. It is, we believe, quite generally admitted that there may be a non-bacillary phthisis, but Drs. Gibbs and Shurley do not tell us exactly what it is, or how to recognize it. They believe also that the destructive and inflammatory disturbances of the lungs are the result of some bio chemical poison. In this respect, it seems that they are only confirming what has been believed by others, and what Koch's "tuberculin" apparently proves.

The treatment advocated by the gentlemen referred to consists in the inhalation of chlorine gas and hypodermic injections of gold and iodine. It would be interesting to know whether experiments have been made to determine how much chlorine gas can be made to permeate the deeper air-passages in the lungs. It seems at first sight that a practically irrespirable gas could not be gotten into the bronchioles or alveolar spaces in sufficient quantity to have a decided antidotal effect. However, we await the announcement of the results. So far, we note that among twenty-two cases treated there have been six apparent cures.

THE DISTRIBUTION OF ANATOMICAL MATERIAL.

A bill has passed the State Senate which provides for the equable distribution of dissecting "material" among the post-graduate schools and colleges of the State. Heretofore, the undergraduate institutions alone have been entitled to a share, and they have shown a good deal of unfriendliness toward the post-graduate institutions; the present bill, it is believed, will remedy the injustice, and correct some other well-known abuses connected with the distribution of the pauper dead.

News of the Week.

Twins Five Times.—Dr. M. H. Turner, of Hammondsville, N. Y., in detailing the results of a large and varied obstetric experience writes that he has "just delivered Mrs. D—— of her fifth pair of twins." Dr. Turner was in attendance upon the good mother on four similar occasions. We trust he will be on hand at the next.

West End Medical Society, New York.—At the annual meeting of the West End Medical Society, held on Saturday evening, February 7, 1891, the following officers were elected for 1891: *President*, Dr. E. J. Ware; *Vice-President*, Dr. F. J. Bowles; *Secretary* and *Treasurer*, Dr. F. Spencer Halsey.

Further Experiences with Tuberculin.—Mr. Jonathan Hutchinson in a lecture on lupus says that no cure of this disease by means of Koch's lymph has yet occurred in London. Virchow has recently shown to the Berlin Medical Society the specimens taken from the body of a man, aged fifty-four, who had been admitted to the Charité as an in-patient on October 6th of last year, suffering from pleurisy, and whose condition had been satisfactory up to November 20th, when treatment by Koch's remedy was begun. There was no fever, no loss of weight. Since November 20th five injections of 5 milligrammes each had been given, followed each time by powerful reactions. After the last injection (January 9th) fever set in, which persisted until death (January 20th). Post-mortem examination showed, besides old-standing induration in the lungs and remains of the pleuritic condition, an exceptionally wide-spread miliary tuberculosis, extending over the lungs, the spleen, the kidneys, and the liver. Professor Ewald has made a report upon his experiences with Koch's lymph in the Augusta Hospital. One hundred and fourteen cases had undergone the treatment at this establishment, the total amount of lymph used being 32,000 milligrammes. Ewald summed up as follows: "Gentlemen, if I am openly to express my conviction, I must say that I have not yet seen a single case that I could really call cured." He stated, however, that in a certain number of cases the improvement following the injections had been greater than had ever been known to result from any other remedy in so short a time. Dr. James Israel, Surgeon to the Jewish Hospital, gave an account of 24 surgical tuberculous cases treated by the lymph during from thirty to sixty days. One case of hydrops tuberculosis of the knee he pronounced to be cured; 2 cases ended fatally; 5 cases, 1 of which was lupus, remained absolutely uninfluenced by the treatment, the injections, though followed each time by the well-known general reaction, producing neither local reaction nor even the slightest beginning of any therapeutic effect; 1 case of tuberculosis of the prostate showed neither general nor local reaction even after injections of 4 centigrammes, nor any change of condition; 6 cases showed decided improvement, 5 showed no improvement, 2 cases relapsed, and 3 became decidedly worse. Dr. Israel gave a detailed history of three of his cases, which were specially interesting, and, in conclusion, summed up as follows: 1. The remedy does not in all cases, even if we exclude caseous foci, exert an influence on tuberculous tissue. 2. The remedy does not always produce decided necrosis, but sometimes inflammatory phenomena also. 3. The intensity of the local reaction bears no proportion to the intensity of the general reaction. 4. The intensity of the local reaction is no criterion of the therapeutic effect. Good effects may be achieved where the local reaction is feeble. Intense local reaction may be unaccompanied by any favorable therapeutic effect.

A New Medical School in Paris.—There is a scheme on foot to start a rival medical college in Paris, the faculty to be composed of various hospital surgeons and physicians. It is said that the professors in the regular faculty neglect to use the hospitals for teaching purposes.

A Curious Way of Getting Lupus.—Dr. B. Baginsky has shown a patient who after making use of a handkerchief belonging to her phthisical sister was attacked by lupus of the nose.

Treatment of Tuberculosis and Phthisis by Koch Lymph.—Dr. W. Körte, Surgical Director of the Urban Hospital, has reported on twenty-eight cases of surgical tuberculosis that have been treated by him on the Koch method. A decisive result had not been obtained in any case. Not a single case was cured, but many improved. He had gained the impression that the patients were gravely affected by the treatment, and that many lose ground in spite of the best nourishment. With many cases of death that had no causal relation to the treatment, there was one that was suspicious. In the case of a child, four years of age, that had received injection on account of a tuberculous knee-joint affection, a fresh tubercular meningitis was found after death, which had taken place rather suddenly. In the knee-joint itself, however, there was no fresh eruption of tubercle. Professor Sonnenberg has shown a case of advanced phthisis that had been treated by the combined surgical and Koch methods, as Koch himself had suggested. The lung had been opened and treated by cauterization and iodoform packings in the manner mentioned in a late communication. The patient had a remarkably rapid and satisfactory recovery, although it would be too much to say that a cure has been achieved.

No Lymph.—Mrs. Blinkers—"I hear Dr. Curem has got back from Berlin. You must go around at once and see if he obtained any of Professor Koch's lymph." Mr. Blinkers—"He couldn't get any. I met him in the street." "Did he tell you he couldn't get any?" "No; but he told me he had doubts of its curative properties." —*New York Weekly.*

The Duty on Dentures.—Our esteemed contemporary *The Evening Post*, is in a state of mind because certain materials pertaining to the manufacture of teeth have had a tariff of fifty-five per cent. *ad valorem* placed upon them. As the *Post* mildly puts it: "the dentists have been swindled in a dastardly manner." We feel very sorry about the duty and about the *Post*. Perhaps in some providential way, however, the crime may be atoned for and a serious dental catastrophe averted. With cheap silver, for example, amalgam plugs will be cheaper and that may offset the swindle.

To Bring out Râles in a case of suspected phthisis, give the patient iodide of potassium for two days.

Dead Issues.—A discussion is about to be undertaken between *The Sanitarian* and an "eclectic" journal called the *Medical Tribune* on the value of vaccination.

The Woman's Hospital of this City has received from Mrs. Morris K. Jesup the sum of $100,000. It is considering the plan of erecting new hospital buildings on a different site from the present.

Scotch Physicians Threaten a Strike.—A largely attended meeting of medical men was held in Edinburgh recently to debate the grievances of over-work and under-pay so long felt and hitherto so patiently borne. Practitioners from Ross-shire, Argyleshire, Dumfriesshire, Inverness, Dundee, John o' Groat, Tobermory, as well as Edinburgh and the mining districts, were present. There was a strong feeling shown in favor of "striking" for higher fees. This very unwise course, however, did not prevail, but the matter was referred to committees for further investigation.

Inoculation of Dog Serum as a Remedy for Tuberculosis.—In a series of communications made in the course of the last two years to the Société de Biologie, MM. Héricourt and Richet have given the results obtained by the injection of the blood of an animal refractory to tuberculosis, such as the dog, into the economy of one susceptible to the onslaughts of the bacillus. They have demonstrated experimentally that such a proceeding exerts a retarding influence on the evolution of tuberculosis artifically communicated, without, however, stopping it altogether. With a view of intensifying these partially protective properties of canine blood, they inoculated the dog with a large dose of very active tuberculous matter, and one month later (the animal having lost flesh, and exhibiting manifest signs of ill health) injected into the peritoneal cavity of three rabbits 70 c.c. of the dog's blood. A week later these rabbits were, with three other test rabbits, inoculated with strong tuberculous virus, with the result that in twenty-five days two of the latter had succumbed, the rest surviving. Their ultimate fate is not recorded. Encouraged by these results, MM. Héricourt and Richet have extended the application of their method to tuberculous human beings, employing the serum only, and selecting the interscapular region as the seat of inoculation. M. Richet reports (Société de Biologie, January 24th) that four phthisical men have, since the early part of December, 1890, been subjected to this novel treatment. The results obtained seem to warrant the assumption that the introduction of the serum of dog's blood into the human economy counteracts, to some extent at least, the noxious influence of Koch's bacillus.—*Paris Cor. of Lancet.*

The New York Anti-Smoking Law, which went into effect September 1, 1890, reads as follows: "No child actually or apparently under sixteen years of age, shall smoke or in any way use any cigar, cigarette, or tobacco in any form whatever, in any public street, place, or resort. A violation of this subdivision shall be a misdemeanor, and shall be punished by a fine not exceeding $10, and not less than $2, for each offence." It doth not yet appear whether public sentiment will enforce the law. This law is proper enough in its aims, but it is a question if it can or will be enforced. Possibly the County Medical Society, which looks after the school children quite sharply, may be induced to attend to the young cigarette fiends, and those who supply them.

Lectures to Mothers and Nurses.—A free course of weekly practical lectures to mothers and nurses has been begun at the New York Post Graduate Medical School and Hospital. Among the subjects and lecturers are the following: "The Care of the Eye," by Dr. D. B. St. John Roosa; "The Most Frequent Surgical Incidents of Infancy and Early Childhood," by Dr. Robert Abbe; "The Care of the Skin in Health and Disease," by Dr. L. D. Bulkley; "Practical Points in the Nursing at the Babies' Wards as Employed in Lung Diseases, Fevers, Intestinal Diseases," etc., by Dr. Henry D. Chapin; "Infant Feeding and the General Care of Young Children," by Dr. J. H. Ripley.

The Unity of the Infectious Fevers.—Dr. Ernst Roger, of Potsdam, as the result of a long and careful study of infectious fevers in the cadet barracks at Potsdam, has reached some novel conclusions. He holds, for example, that because there is a general agreement as to the period of incubation in such diseases as scarlet fever, measles, rötheln, diphtheria, and mumps (with perhaps the exception of measles), and because all of them have many features in common, they are all species of mixed infection in which there is a common organism, and that the special modifications in each disease are the results of the presence of certain other specific bacteria. He holds that this common organism under certain circumstances loses its virulence, and regains it when placed under favorable conditions; that it and the other organisms which play a prominent part in the production of the special symptoms produce poisonous substances which may cause rapid intoxication of a patient, while through the spores that are formed the infection may be transferred to others, or they may give rise to a second crop of the organism in the original host (auto-infection); that the producers of the mixed infection belong to the suppuration-causing group; and that they give rise to different symptoms and pathological conditions according to the tissues that they attack—the glands of the skin, the subcutaneous connective-tissue, lymphatic glands, and lymph vessels, the mucous membrane, the serous surfaces, or other elements of special organs. Roger's views are fortified with a long array of tables and statistics.

The Ricord Prize.—The French Academy of Medicine has been authorized by the Minister of Public Instruction to accept the legacy devised to it by Philippe Ricord, for the foundation of a prize, to be awarded every two years to the author of the best work on venereal disease which appears in the intervening period.

A New International Clinique at Paris.—A number of medical men in Paris have formed themselves into a society called the Society of Medical Assistance to Foreigners, for the purpose of, 1, organizing a system of hospital relief to all foreigners; 2, to give them gratuitous consultation; and, 3, to take advantage of the clinical material which will be thus collected to give practical instruction in all the branches of medical art.

Regulating Embalming.—A bill has been introduced into the New York Legislature to establish a Board of Embalming Examiners of the State of New York, and to regulate the practice of embalming human bodies.

In Massachusetts the Medical Examiners have issued an order providing that no body shall be embalmed nor any embalming fluid be used on the body until a physician's certificate of the cause of death be obtained.

A Negro Pension Surgeon.—The *Indiana Medical Journal* is much disturbed because a negro physician has been appointed on the Examining Board for Pensions of Indianapolis.

A Jersey City Medical College.—The District Medical Society of the County of Hudson, N. J., has passed the following resolution:

Whereas, A certain medical institute, called the "Medical and Surgical College of the State of New Jersey," chartered by special Act of this State, approved March 17, 1870, was organized during the year 1888, and opened in three small rooms on the top floor of the General Office building, Jersey City; and

Whereas, The State Board of Medical Examiners of New Jersey will introduce a bill at the next meeting of the Legislature for the purpose of repealing said charter;

Be it resolved, That the District Medical Society for the County of Hudson does hereby earnestly protest against the existence of said alleged college as an unnecessary, inadequate, and disreputable institution, tending to degrade and lower the standard of the medical profession; that the influence of this Society and of the individual members thereof be given to the support and passage of the bill to repeal said charter, and that a copy of this resolution be forwarded to the several medical societies of this State, with requests for their support and influence for the passage of said bill.

A State Medical Library.—At the recent annual meeting of the Regents of the University of the State of New York, on the motion of Dr. William H. Watson, the following resolutions were adopted: That we accept from the Albany Medical College the gift of its medical library of five thousand volumes, undertaking to give the same convenient space and proper care, and to keep them open to the public during the same hours as the State law library; and, That the Regents establish a medical department of the State library, and that the Legislature be asked to appropriate a suitable sum for its proper maintenance.

The New Building of the Woman's Medical College of this city was opened for the reception of visitors on February 14th. The sum of $63,000 has been raised already to defray the building expenses, and a debt of $12,000 remains. This, it is hoped, will soon be raised. Perhaps it would be obtained sooner if the worthy Dean were not giving her influence toward raising money for another medical college not yet existent.

The National Association of Medical Colleges.—The following gentlemen are named as the Committee on Organization and By-laws of the National Association of Medical Colleges: Dr. P. H. Millard, of St. Paul, Chairman; Dr. William Osler, of Philadelphia, and Dr. Samuel Logan, of New Orleans. The committee will report at the forthcoming meeting to be held in Washington.

A New Cure for Cancer.—Professor Mosetig, of Vienna, announces that in pyoktanin or methyl-violet, he has found a remedy for cancer. He does not assert that any cases are quite cured yet; but the results have been so satisfactory as to lead him to think a cure will be found in the aniline dyes.

Infectious Diseases and the Telephone.—In some hospitals it is customary to allow visitors to converse on certain days, by means of a telephone in a waiting-room, with patients in the wards, and this arrangement has been found to work admirably in allowing communication without possibility of contagion.

The Death of Dr. Elisha Sterling, of Cleveland, O., is announced, at the age of sixty five. Dr. Sterling was well known as a naturalist, and to him is given the credit of being the father of fish-culture in this country.

Dr. Edwin Hazen, one of the oldest and best-known physicians of Vermont, died at his home in Woodstock recently. Dr. Hazen had been in the continuous practice of medicine for half a century.

A Curious Piece of Paternalism.—The Russian Government has prohibited the sale of "spermin" by pharmacists, even when prescribed by a medical man. "Spermin" is said to be an inert body.

Sterilized Milk still Prone to Decomposition.—Sterilized milk is, according to Dr. Marr, as badly borne in children's dyspepsia as ordinary milk. Even when sterilized by Soxhlet's apparatus, milk is still prone to decomposition, and hence favors the decomposition processes which are active in the diseased digestive tract.

Animal vs. Human Lymph.—In reply to the question propounded by the Board of Health of the Department of the Seine by the Préfet of that territorial division, as to the advisability of substituting animal for human lymph in vaccination, Dr. Lancereaux, specially deputed to report on the subject, pronounces decidedly in favor of the animal product, and recommends the discontinuance of human lymph. The reasons adduced in support of this conclusion are the immunity from risks of communicating syphilis, erysipelas, lymphangitis, etc., and the greater facility of procuring the calf lymph in a pure state, the source being picked animals placed under the most favorable hygienic conditions. M. Lancereaux attributes to the general employment of calf lymph the increasing favor with which the practice of vaccination, and especially revaccination, is regarded in France.

Medical Legislation in California.—The California Legislature has now before it a large amount of medical legislation, the general tendency of which is to regulate pretty nearly everything. There is a bill providing for the appointment of a State Veterinary Surgeon; also a bill providing for the regulation of the practice of pharmacy and sale of poisons.

Another bill proposes to establish a State Board of Funeral Directors and to regulate the practice of undertaking.

A bill has been introduced appropriating $80,000 for the Medical Department of the University of San Francisco, and we hope the university will get the money.

A bill has been introduced, also, forbidding the sale of cigarettes to boys, and another regulating the practice of veterinary medicine.

Reviews and Notices of Books.

Laboratory Manual of Pharmaceutical Chemistry. By Oscar Oldberg, Pharm.D. (Professor of Pharmacy, Northwestern University), and John H. Long, Sc.D. (Professor of Chemistry, Chicago Medical College). Second edition, revised and enlarged. 8vo, pp. 457. Chicago: W. T. Keener. 1891.

The principal changes in this edition are a new chapter on "Urinary Sediments," and the rewriting of that on "Chemical Analysis of the Urine." The work is designed to afford an introduction to the study of pharmaceutical chemistry, and while primarily intended for those who are to be druggists, contains, nevertheless, much of interest and profit to the medical man. Different sizes of type distinguish the main outlines under each heading from the ensuing discussions and technical details. The general typographical appearance is most attractive. We believe that several more editions will be called for before the usefulness of the work will be exhausted.

Transactions of the Association of American Physicians. Fifth Session; Held at Washington, D. C., May 13, 14, and 15, 1890. Volume V., pp. 272. Philadelphia: Printed for the Association by Dornan.

The high standing of the Association vouches for the worth of its volumes of transactions. This last one contains nineteen excellent papers. Professor W. T. Lusk writes on antiseptic midwifery, giving, among other things, the plans carried out in the Bellevue Hospital lying-in pavilion. Dr. Francis P. Kinnicutt contributes an admirable paper on the methods of physical examination in diseases of the stomach. Professor F. C. Shattuck writes on the same subject from a decidedly conservative stand-point. Dr. J. E. Reeves has an interesting and instructive article on typhoid fever, in which he cites five cases of perforation with recovery. The long and spirited discussion that followed this paper is also given. The method of limiting the prevalence of tuberculosis is treated by Dr. E. O. Shakespeare, and discussed by several others. There are also very interesting and valuable papers by Professors C. L. Dana, A. A. Smith, Norman Bridge, William Pepper, D. W. Prentiss, R. H. Fitz, and J. E. Graham, and by Doctors I. N. Danforth, S. Weir Mitchell, E. L. Trudeau, W. Sinkler, C. F. Folsom, I. T. Dana, and J. P. Crozer.

A Clinical Study of Diseases of the Kidneys. Including Systematic Chemical Examination of Urine for Clinical Purposes; Systematic Microscopical Examination of Urinary Sediments; Systematic Application of Urinary Analysis to Diagnosis and Prognosis; Treatment. By Clifford Mitchell, A.M., M.D. Chicago: W. T. Keener, 96 Washington Street.

This is mainly interesting from the fact that it is by a homœopath, and from a homœopathic stand-point. It has several good points. First, it is clearly printed and handsomely bound; secondly, the section on urinary analysis, though neither complete nor new, is easy of execution by the general and busy practitioner; thirdly, the application of urinary analysis to diagnosis is clearly set forth, and the rules given are of considerable value. As a rule, most books on this subject have too much chemistry and not enough medicine, or vice versa. This work, however, is well balanced in this respect.

Micro-organisms of the Human Mouth. By Willoughby D. Miller, D.D.S., M.D., Professor at the University of Berlin. 8vo, pp. 364. Philadelphia: The S. S. White Dental Manufacturing Co. 1890.

Some idea of the thoroughness with which this work has been prepared is gained by a glance at the Bibliography, which contains about two hundred and fifty references. Part I. of the volume comprises general bacteriological studies, with special reference to the bacteria of the human mouth. A brief but comprehensive discussion is given of the forms of bacteria, their origin, reproduction, life conditions, and their behavior toward various chemical and physical reagents. Their vital manifestations are given at some length. No less than seven substances found in the mouth serve as nutrient media for their reproduction. Among these are the normal saliva and mucus, softened dental tissue, and accumulated particles of food. Full directions are given for the proper conduct of studies and experiments along the lines indicated. Chapter VII. is entitled "Original Investigations on the Decay of the Teeth," and naturally attracts the most attention. Part II. treats of the "Pathogenic Mouth Bacteria and the Diseases which they Produce."

We have not space to speak in detail of Dr. Miller's conclusions. They are of interest not only to dentists, but to all engaged in bacteriological work. From his name we conclude that he is an American, and we are glad to have such an able representative at one of the largest and most famous of the European universities.

Proceedings of the National Conference of Charities and Correction at the Seventeenth Annual Session, held in Baltimore, Md., May 14–21, 1890. Edited by Isabel C. Barrows, Official Reporter of the Conference. Pp. 476. Boston: Press of George H. Ellis.

Anyone interested in the organized forms of charity—hospitals, training-schools for nurses, insane and orphan asylums, prisons, immigration bureaus, etc.—should have this book. It contains a large number of papers on these matters by the best authorities in this country. Especially noteworthy are the following: "State Boards of Charities," F. H. Wines; "The Economic and Moral Effect of Public Out-door Relief," Mrs. C. R. Lowell; "The Moral Imbecile," Dr. I. N. Kerlin; "The Care and Treatment of the Insane," Dr. Richard Gundry; "Prison Discipline," H. F. Hatch; and the several papers on hospitals and training schools for nurses.

A Manual of Weights and Measures. Including Principles of Metrology, the Weights and Measures now in Use, Weight and Volume and Their Reciprocal Relations, Weighing and Measuring, Balances (Scales) and Weights, Measures of Capacity, Specific Weight, and Specific Volume, etc., with Rules and Tables. By Oscar Oldberg, Pharm.D., Professor of Pharmacy and Director of the Pharmaceutical Laboratory in the Illinois College of Pharmacy, the Department of Pharmacy of the Northwestern University. Third Edition. Revised. Chicago: W. T. Keener.

Two large editions of Dr. Oldberg's work being exhausted, the third, thoroughly revised, corrected, and brought up to date, is issued. It is a standard work on the subjects treated, a fair index of which appears in the title. The adoption of the metric system of weights and measures in the Pharmacopœia, to the exclusion of all other systems, renders a thorough knowledge of that system almost imperative. Such knowledge can be had in the work under review. It is an invaluable text-book for students, and an unusually useful reference book for the practitioner, the chemist, and the pharmacist.

Transactions of the Intercolonial Medical Congress of Australasia. Second Session. Held in Melbourne, Victoria, January, 1889. Illustrated. Pp. 1,029. Melbourne: Stillwell & Co.

This is a portentous volume containing two or three hundred papers by the brainy physicians of Australia. Naturally many of the papers are of local interest, but the great bulk will be found of interest to the profession in general. The articles on typhoid fever, diphtheria, hydatid disease and on gynecology and pharmacology are especially worthy of note.

Wood's Medical and Surgical Monographs. November Issue. Contents: "The Treatment of Uterine Affections by Massage," by Dr. Eugene Arendt; "Cosmetics, a Treatise for Physicians," by Dr. Heinrich Paschkis; "On Affections of the Stomach in Diseases of the Male Genital Organs," by Dr. Alexander Peyer. Pp. 508. Price, $10 a Year. Single Copies, $1. New York: William Wood & Co., 56 and 58 Lafayette Place.

The November issue is fully up to the high standard of the now famous monographs, and will be warmly welcomed and widely read. In his essay on massage in uterine affections, Dr. Arendt gives an interesting and lucid description of Thure Brandt's methods, which have had surprisingly good results in the hands of many physicians. The movements are modified from the Swedish system and, as a rule, tend to lessen the blood supply of the pelvic viscera. The system is worthy of careful study and trial. The article on cosmetics by the renowned Vienna physician Dr. Paschkis is of infinitely more value than its title indicates. After a most interesting historical sketch of the subject, the author devotes two hundred pages to describing the proper care of the skin, hair, nails, teeth, etc.; a care that is scientific as well as pleasing. The latter quality is one which is too often unknown or neglected by the profession. The art of prescribing agreeable applications often brings popularity as well as dollars. Dr. Peyer's article is invaluable in accentuating an important etiological factor in stomach troubles, a factor that is much too often overlooked. The author cites three hundred cases of gastric disorder that were due to diseases of the genital organs, among them, dyspepsia, nausea, anorexia, vomiting, flatus, and cramps. His deductions are valuable.

Transactions of the Medical Society of the State of California. Session of 1889. Pp. 290. San Francisco: Woodward & Co.

If anybody imagines that the science of medicine is confined to the East, he should read the transactions of this society, which is the largest west of the Rocky Mountains. They show that California is abreast of the times and, by original investigations, is making rapid advancement in every branch of medical science. The papers are both readable and valuable.

The Medical News Visiting List for 1891. Weekly (dated, for 30 patients); Monthly (undated, for 120 patients per month); Perpetual (undated, for 30 patients weekly per year); and Perpetual (undated, for 60 patients weekly per year). The first three styles contain 32 pages of data and 176 pages of blanks. The 60-Patient Perpetual consists of 256 pages of blanks without data. Each style in one wallet-shaped book, pocket, pencil, rubber, erasable tablet, etc. Philadelphia: Lea Brothers & Co. 1890.

The new issue maintains its previous reputation. It adapts itself to every style of book-keeping; there is space for all kinds of professional records; it is furnished with a ready-reference, thumb-letter index, and has a most valuable text.

Transactions of the Medical Society of the State of Pennsylvania at its Fortieth Annual Session. Held at Pittsburg, 1889–90. Vol. XXI. Pp. 338. Philadelphia: William J. Dornan.

This volume is a credit to the society, progressive and scholarly. Among the contributors are Professor James Tyson and Professor James M. Duff and Drs. John Aulde, Henry Wharton, Samuel Ayres, and J. A. Lippencott. These names alone vouch for the excellence of the volume.

Transactions of the Eleventh Annual Meeting of the American Laryngological Association. Held in the City of Washington, D. C., May 30 and 31, and June 1, 1889. Pp. 150. New York: D. Appleton & Co.

The best talent in the laryngological specialty is embraced in the American Association and its meetings annually bring forth many valuable papers. The twenty one read at the last meeting are reproduced in full, with discussions and handsome illustrations, in the work under review.

Railway Surgery. By C. B. Stemen, A.M., M.D., LL.D., Professor of Surgery in the Fort Wayne College of Medicine; Surgeon to St. Joseph Hospital, etc. Pp. 315. Fifty-three Illustrations. St. Louis: J. H. Chambers & Co. 1890.

This work has been written for the use of railway surgeons, of whom, we are told, there are now some twenty-five thousand in this country, and will doubtless prove a handy book for the class of emergency work that comes in their way.

Post-Mortems. What to Look For and How to Make Them. By A. H. Newth, London. Edited, with numerous notes and additions, by F. W. Owen, M.D., formerly Demonstrator of Anatomy, Detroit College of Medicine. Cloth, 12mo. Detroit, Mich.: The Illustrated Medical Journal Co.

Few general practitioners can make a good systematic necroscopy. It requires practice and a broad, general knowledge. This manual will make up for a large deficiency in both these points. It is a reminder to the best of educated physicians and a good guide to the student. It is not to take the place of large works on pathology, but presents, in a clear manner, all the important conditions of the organs met with in post-mortem examination, either in health or disease. There are also chapters on the post-mortem appearances seen in those drowned, poisoned, hanged, and in cases of infanticide. It is small and convenient and will prove of great value to all who have occasion to use it.

Physical Diagnosis and Practical Urinalysis. An Epitome of the Physical Signs of the Heart, Lung, Liver, Kidney, and Spleen in Health and Disease. Edited by John E. Clark, M.D., Professor of General Chemistry and Physics in the Detroit College of Medicine. Pp. 193. Fully Illustrated. Detroit, Mich: The Illustrated Medical Journal Co.

Dr. Clark thought that a work on physical diagnosis was needed for students in which the main points would be briefly and plainly expressed. He has succeeded in producing such a work in the book under review. The entire subject is embraced in one hundred pages, and very clearly and thoroughly is it treated. Not only students but practitioners as well will find the book valuable. The chapters on "Urinalysis" are original, and embrace the doctor's laboratory processes, used in teaching this branch of medicine in the Detroit College. His methods are clear, practical, and easy of execution. There is also a valuable chapter on "Bacteria."

Treatment of Furunculosis.—Dr. Veiel, at the annual meeting of German physicians held at Bremen, stated that he had used in the treatment of furunculosis a paste consisting of equal parts of oxide of zinc and vaseline, to which was added four per cent. boric acid. This ointment was thickly spread on lint. In cases of circumscribed furunculosis the paste was rubbed in and around the diseased parts three times daily. If the affection were universal, the whole body was rubbed with the application. Sublimate baths were at the same time used when the patient could bear them. In a case of universal furunculosis a perfect cure was obtained in seven weeks. Large boils were poulticed.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

KOCH'S TREATMENT—THE RELATIONSHIP OF LUPUS TO TUBERCULOSIS—MR. HUTCHINSON ON THE VALUE OF KOCH'S METHOD IN LUPUS—DISCUSSION ON THE VALUE OF VENESECTION—RELICS OF JOHN HUNTER—SMALL POX MORTALITY IN LONDON IN 1890—DEGREES IN HYGIENE.

LONDON, January 31, 1891.

KOCH'S treatment is at present somewhat at a discount here. The facts recently brought forward by Professor Virchow are indeed such as to induce caution in using the remedy. Clinical observers also are finding the ultimate results of the treatment to be far from satisfactory. The patient with lupus who was taken to Berlin by Dr. Pringle and Mr. Malcolm Morris, is now almost as bad as ever. The case of supposed tubercle of the iris treated by Mr. Watson Cheyne has steadily become worse in spite of the treatment, so that the organ has been excised. On examination, the growth has proved to be tubercular, and, as such, it is disappointing that the injections failed to cause any improvement. The only points on which it can be said that any unanimity of opinion exists as yet, are as to the value of the remedy in diagnosis, and also in regard to its having established on a firmer basis the view that some very close relationship exists between lupus and tuberculosis. In his recent lectures on lupus (in the London Post-Graduate Course), Mr. Hutchinson expressed a very decided opinion that clinical facts did not favor the belief that infection with the tubercle bacillus was the sole and efficient cause of the disease which we called lupus. Alluding to the marked effects of the injections upon lupoid tissue, Mr. Hutchinson remarked that all diseases of the lupus family were liable, when inflamed, to have the inflammation assume the character of erysipelas. Many observers had noted this, and it had also been generally agreed that after attacks of erysipelas the lupus was usually in a much improved condition. He had himself always been accustomed to hail erysipelas in lupus (except in lupus erythematosus) as a direct gain to the patient. This fact must be borne in mind when examining the results of Koch's treatment. Mr. Hutchinson mentioned some cases (one under his own care) in which the injection of Koch's fluid produced no effect whatever on the patches, though the temperature rose. In all the cases he had heard of in which the lupus patch had been made to inflame, the results, as regarded its subsequent improvement, had been good. No one, however, ventured to report an instance of complete cure of the cases which had been shown to him as the most satisfactory; he was bound to say that in every one there had been evidence, at some part of the edge, of the remains of lupous tissue, ready, probably, to start into fresh growth on the slightest provocation. The treatment did not always influence the essential element of lupus. The brown apple-jelly-like deposit, which was universally acknowledged as the most characteristic of the lupus conditions, sometimes remained untouched even when the inflammatory swelling of the parts had been quite got rid of. The cases which appeared to derive the greatest benefit were those in which there was most of inflammatory swelling, and in which the more specialized elements of the lupus process were least abundant. Should future facts confirm this, we should be obliged to suspect that the remedy was, after all, one for certain conditions of the inflammatory process, and not for tuberculosis. Even then, however, it was possible that it might still prove of great help to us in the treatment of certain forms of lupus. He was not aware that it had yet been tried in any of the cases of what had been described as perfectly "quiet" lupus. On lupus erythematosus a good many experiments had been made. It was foretold by those who believed that what they called "true" lupus was bacillary, and that lupus erythematosus was not so, that the fluid would have no effect on the latter. This prognostication had in the main been fulfilled.

The last meeting of the Medical and Chirurgical Society was devoted to discussing the subject of venesection. Dr. Pye-Smith read a paper in which he gave an account of nearly fifty cases in which he had used bleeding from the arm. This number comprised cases of bronchitis, acute and chronic broncho-pneumonia, lobar pneumonia, miliary tuberculosis of the lungs, valvular disease of the heart, pericarditis, Bright's disease, aneurism, apoplexy, and epilepsy. He expressed the opinion that the remedy was useful—not as one adapted for any particular disease, but in meeting certain indications of pathological states. These indications were: 1, Cyanosis, with distention of the right side of the heart, whether from pulmonary or from some other obstruction to the circulation; 2, intense pain in aortic aneurism; 3, uræmic and prolonged epileptiform convulsions.

Dr. Stephen Mackenzie said he had himself always been in the habit of bleeding for certain conditions, and particularly in the first class of Dr. Pye-Smith's cases—that of distention of the right side of the heart—when life was in jeopardy and where the pulse was slow and feeble. Here relief was immediate and benefit might be permanent. The diseases were of various kinds, such as heart disease, capillary bronchitis, and pneumonia, in which the right side of the heart was endeavoring to get blood through the lungs. He had known life to be saved in hæmoptysis by bleeding; the hæmoptysis ceased and the patient recovered. Marked venous congestion, with cardiac struggling, were the indications for bleeding. In aneurisms there were other means of obtaining the same result, but if potassium iodide, nitrite of amyl, and nitroglycerine had been used and failed, then that was strongly in favor of this mode of treatment. In uræmic cases he had once been accustomed to bleed, but the results had not been encouraging, and if the cause of the arterial tension was, as he believed, some toxic influence, then he believed the best mode of treatment was by morphine. But in a case with dilated left ventricle, cyanosis, œdema, and suppression of urine, venesection gave such relief that on a recurrence of the symptoms the patient asked to be bled.

Sir George Humphry said that in inflammatory affections, such as acute pleurisy and pneumonia, bleeding was the means of giving immense relief. After injuries of the brain, the result of venesection was often markedly beneficial. He believed the abuse of the remedy had caused its disuse.

Dr. Broadbent said that an additional reason why venesection had been abandoned was because human intellects were dominated by theory rather than by experience. The decision against bleeding had been arrived at from the results in cases of pneumonia—a disease in which it was only of benefit in the early stages. He had been brought up in a school that condemned venesection—a position confirmed by the results he used to see in Paris in cases of rheumatic fever, pneumonia, and other acute conditions—but its proper use had by degrees become apparent to him. He agreed with Dr. Pye-Smith, that bleeding would be very rarely needed in aneurism if iodide of potassium were freely given. In cases of overdistention of the right ventricle of the heart, his experience differed from Dr. Pye-Smith's and Dr. Mackenzie's, in that he had had better results in cases of mitral valve disease (particularly in mitral stenosis) than in cases of bronchitis. In the latter disease he relied more on the use of emetics. With an overloaded right heart, the indication for venesection was forcible cardiac impulse, with a small, almost imperceptible, irregular pulse. The forcible impulse showed the power of the heart's action, and that it was in a position to benefit by the relief given by venesection. In pneumonia the opportunity of benefiting by venesection came quite early. In uræmic convulsions his experience of venesection had been uniform

ly favorable. The convulsions were not, he believed, directly due to the toxic action on the brain, but only indirectly through the high arterial tension produced by the poison, and then venesection acted in the same way as in over-distention of the right side of the heart.

Mr. Hulke and Mr. William Bateman bore testimony to the value of venesection in head injuries. Mr. Hulke also mentioned the case of a woman, with an abdominal aneurism, who found such relief from the abstraction of eight or ten ounces of blood that she used frequently to come to the hospital to be bled.

Mr. George Pollock said he had found bleeding most successful in cases of injury to the chest with fractured ribs, punctured lung, and pneumothorax.

Mr. Hutchinson mentioned a specimen of a cured aneurism in the London Hospital Museum, which had resulted from repeated bleedings. Owing to the prejudice among the public against venesection, other means should, if possible, be tried first. A very easy method of diverting some of the blood from one part to another without diminishing the total quantity, was to move the patient low down in the bed and allow his legs to rest in a hot bath at the foot of the bed.

Dr. Angel Money mentioned another method of determining a flow of blood to a given part, viz., to bandage it with an Esmarch bandage and then rapidly release it, when a considerable reaction set in.

The Council of the College of Surgeons are arranging to have a permanent exhibition of letters and other relics of John Hunter.

Only three patients died in London from small-pox during the past year.

The University of Durham is about to institute degrees in hygiene.

OUR VIENNA LETTER.

(From our Special Correspondent.)

THE WAY EAR DISEASES ARE STUDIED IN VIENNA—THE SCARCITY OF GOOD NURSES—A SAD ACCIDENT IN BILLROTH'S CLINIC — VIRCHOW'S UTTERANCES REGARDING THE KOCH TREATMENT—SCHRÖTTER DELIVERS A POPULAR LECTURE ON THE SUBJECT.

VIENNA, February 1, 1891.

In no department, perhaps, are better opportunities offered the student in Vienna than in Otology. The most prominent teachers are Politzer, Gruber, Urbantschitsch, and Bing. The instruction is all good, but the fame of the two professors first named naturally attracts the most students. Their methods of teaching are in many respects similar, though, in a general way, Professor Politzer is credited with illustrating the therapeutics more carefully, while the student sees, perhaps, more cases under Gruber. For one who has had already some practical experience in the treatment of the ear, Professor Politzer's course offers many attractions and advantages. He speaks German with fluency, and a distinct and cultivated accent. He is an enthusiast on his subject, and untiring in his efforts to explain the phenomena witnessed in each case. He has, moreover, what is most rare among Germans, a working faith in the value of delicacy of manipulation, and his talks give many hints as to painless methods and cautious handling. The clinics are conducted somewhat as follows: Of the patients who present themselves perhaps a dozen are of sufficient interest to merit special examination. These are seated by a row of Argands, and examined by the professor, who with colored crayons draws the pathological appearances rapidly on a slip of paper, which the patient holds. If the cases have been already looked over by the student, he now verifies or corrects his conception of the case; if not, he can trace the conditions illustrated on the charts. Cases requiring catheterization of the tuba Eustachii, paracentesis, removal of polypi, etc., are operated on by the students in turn. Some one case of special interest is then selected, thoroughly explained, and the treatment in all its varieties described and shown. Pathological conditions are fully illustrated by specimens showing the various lesions. Thus one becomes practically familiar with the varied ear diseases which thrive so luxuriantly in this climate.

It is a common saying among the foreigners that Vienna is a good place for the student, but a very bad place for the patient. And there is a bit of truth in this. In the first place, German physicians and surgeons seem not to *individualize* in their treatment, and this is true of private as well as hospital practice. Because nine cases have done well under a cold pack, the tenth case gets it, no matter what personal considerations make the treatment of doubtful expediency. Because an operation has succeeded in individuals able to endure it, it is repeated on others manifestly unable to do so. The patient's interests are in effect secondary to those of the treatment. Brilliant triumphs and lamentable failures are the natural outcome.

Then, good nursing is almost unknown here. Vienna is far behind Berlin in this respect. There the nursing in the best hospitals is in the hands of the Lutheran Sisters, who do nearly, if not quite, as well as our trained nurses. But in the great Vienna hospitals male and female patients alike are given over to the charge of coarse women from the lower walks in life. Very indifferent care is thus given. From private sources about the city I hear also much about the wretched quality of sick-room attendance Foreigners anxious and able to obtain the best care for their sick friends find it impossible to obtain here such as they are accustomed to at home. Old residents state that they always nurse their sick themselves, as trustworthy and capable nurses are so difficult to obtain. Were it not for the extreme unwillingness with which Austrian physicians adopt foreign customs, it would seem that there might be here a good field for a few American trained nurses who could speak German.

I witnessed a few days since a sad accident in Professor Billroth's clinic. A young woman was to be operated on for removal of a goitre. The strictest antisepsis was, as usual, observed, and the enucleation done without any special difficulty. Some trouble was experienced once or twice from hemorrhage proceeding from a large vein at the base of the neck. But this was controlled. The operation was completed, and the specimen was being passed around the amphitheatre; the chloroform had been discontinued, and the operator was busy about some minor detail in the wound, when suddenly the hemorrhage recommenced. Equally suddenly the patient turned white and ceased to breathe. Her head was lowered, and with the remark, "Probably air in a vein!" the surgeon and his assistants addressed themselves to the resuscitation. But for such emergencies the clinic, so well supplied in all pertaining to merely operative work, seemed to have no special appliances. The only means used was artificial respiration. For a moment this promised something, but the few spasmodic efforts at breathing thus excited quickly ceased, and the patient was irretrievably lost. The trachea was then opened, and air blown in by an assistant, to no purpose. No oxygen was at hand, no battery ready till long after death was declared, no stimulants were employed, no heat applied. Probably no means would have rescued this case, as the *post-mortem* demonstrated the existence of air-thrombus. But it was apparent that every means at hand was being employed. A most unpleasant impression was made on all the foreigners present by this tragic spectacle, and one could not but be struck by the unshaken coolness with which the surgeon, after the dead body of his patient had been carried out, proceeded immediately to perform a goitre extirpation on a second case—this time with a happier result.

Virchow's recent article upon the dangers of tubercle dissemination by Koch's injections has made quite as much of a stir here as the latter's publication of his secret. Cases are already at hand illustrating this

danger. For example, Professor Schnitzler, some three weeks ago, began the treatment in a case of laryngeal tuberculosis. Within a short time the posterior pharyngeal wall and vault, which had previously presented no traces of disease, showed pearly nodules and large pea-like masses, which rapidly broke down into ulcers. All the general symptoms were greatly intensified, while the pain and difficulty of swallowing became much more pronounced. It is possible in such cases, of course, that the tubercular foci were already present, but latent, and were simply demonstrated by the treatment.

Professor Schrötter, the laryngologist, delivered a popular lecture, an evening or two since, on the Koch method, which was largely attended by a mixed audience. The following utterances indicate the lecturer's position: "We have so far been unable to observe a cure, or, what is more, improvement in a single case. The action of the remedy cannot be termed curative; the changes observed by me have been of a very unfavorable character, new ulcerative processes being set up in many cases. The dangers cannot be concealed, and among them we must reckon that of infection of distant organs."

While admitting the good effects observed in lupus, the lecturer adds: "We cannot with good conscience recommend the method to any patient"—certainly the most decided public stand as yet taken against the method by any man of eminence here.

AN OLD STORY ABOUT A NEW SYRINGE.

To the Editor of the Medical Record.

Sir: It is of small importance, yet in view of the form of what is now known as Koch's syringe, and the fact that the article in the Medical Record of February 7th, headed "An Improved Method for Administering Hypodermic Injections," is the second presentation of the same thing since I supposed I was presenting it for the first time many years ago,[1] I call your attention to the truth of the old adage, "There is nothing new under the sun." The instrument was made by Shepard & Dudley, and I think is still in their catalogue. Yours,

Edgar Holden, M.D.

Newark, N. J., February 8, 1891.

INSTITUTIONS FOR DRUNKARDS.

To the Editor of the Medical Record.

Sir: In a note in the Record on a State Institution for Drunkards in Massachusetts occurs this sentence: "Such an institution was started in this State at Binghamton, but it utterly failed to accomplish its purpose."

This is one of those curious errors that by repetition becomes a settled conviction in the public mind. Jenner's first application of vaccine was not an utter failure; the use of ether or chloroform were not failures at first; Pinel's removal of the manacles of insane in an asylum was not a failure; the Woman's Hospital in New York was not a failure (although some eminent men asserted that it was a mere personal scheme); the first insane asylum was not a failure, although bitterly opposed by many persons.

Binghamton Asylum was not a failure because it was changed to an insane asylum. It was the first and pioneer asylum of the world; and after a stormy career of thirteen years, during which nine different superintendents and a most miserable political ring, beginning with Tweed and ending with the asylum ring, essayed its management, it was changed to an insane asylum. During all these years it roused and educated public sentiment to recognize the disease of inebriety, and the need of asylum treatment. Its influence spread over all countries, and to day over a hundred asylums for inebriates are in active operation, all dating from the success of Binghamton Asylum. Here the fact was demonstrated that inebriety was a disease, and curable as other diseases are.

The continuation of Binghamton as an inebriate asylum was only a small matter compared with the establishment of a new fact and practical discovery in science. Binghamton Asylum was a success, far beyond any present political or selfish conceptions or any comparative estimates with other asylums. It has done what no other asylum has done in this country. It has proved the reality of a theory over a thousand years old and opened a new realm of practical science and pointed out a new road for humanitarian work. If every asylum at work to-day will do as much for the cause of science as the asylum at Binghamton has done we shall have a great forward movement and revolution of our present conceptions of mental disease.

Yours, etc.,

T. D. Crothers, M.D.

[1] Hartford, Conn.

[1] New York Medical Journal, vol. xxiv., p. 367.

PATHOLOGICAL LANGUAGE.

To the Editor of the Medical Record.

Sir: In a recent number of the Medical Record there was an item headed "A Pathological Language." It may be of interest to some of your readers to learn that several such cases as therein mentioned have been under my care during the past ten years. The first were two brothers, six and seven, who spoke fluently a language of their own. Both gave the impression of having tongues too large for their mouths; properly exercised they became compact and agile, and correct articulation resulted.

The elder was strong and energetic but much slower than his brother in learning to speak well.

A girl of thirteen under my care at the same time possessed a like unwieldiness of tongue, which was overcome in about two months. Being of German parentage she had attempted to speak two languages and had succeeded in developing one of her own, possessing many sounds of English and German, but unintelligible.

Another case was a bright boy of twelve, who was unable to use in speech that part of the tongue between the tip and top, and had an over-activity of the back. In consequence he had made every s and z, a k or g. In sentences not possessing many hissing sounds it would be quite easy to understand him, as "It ig a pleagant day," but the question, "Is Augustus sick?" was changed to "Ig Auhugtug hick?" "I go to study sounds," became "I go to hudy hounk." Sister was pronounced higter.

Number five was a young man of twenty, who did not use the back of his tongue at all, or modify vowels with the lips. The effect was exaggerated baby talk and often it was impossible to understand him.

The most recent cases are two brothers aged six and a half and eight, who came under my care just a year ago. I took notes of their language in Bell's Visible Speech symbols, and will quote from my note-book.

"Ordinary words were given so strangely that an interpreter was needed. Often the parents and nurse could not understand their simplest wants. The elder developed a tendency to sign and gesticulate; the younger was becoming morbid and sensitive. They understood each other at all times, having perfected a language that met all their demands and supplied continuous conversation. When talking together their speech was too rapid to be written, but when asked they would repeat the sentences a number of times and always exactly."

The younger boy was the slower in gaining control of his vocal organs, being for some time unable to raise the point of his tongue to the upper gum. Their language did not have any pronouns, prepositions (except kŭ for and), or possessive case.

Examples.—Wee wah Ah-wah'-wee (Lexington Avenue). 'E waw Mā'-e-waw Ah-wah'-wee (We walked on Madison Avenue). Kah goo, kā kee goo (That is good,

very good). Goo pă koo (new pair of shoes). Kă-koo lū mū (Thank you very much). Ah kaw koo pāya (I like to play). Pee pāya (piece of bread). Wah (1), koo (2), kyee (3), paw (4), pah (5), kūya (6), kă-keeya (7), wāya (8), ngah (9), kā (10). Koo kaw kee kee (New York City). Pū-kă-kū (potato). Gaw bĕ (strawberries). Wă-kū pā gū (asphalt pavement). Ah gah-baw (I forgot).

These boys are unusually energetic and remarkably bright. After acquiring distinctness of speech it was found necessary, as in nearly all other cases, to teach them to arrange words in sentences, their mistakes in grammar being similar to those of a foreigner. None of them were under my instruction longer than a few months. The older ones are now self-sustaining. All recollection of their peculiar languages was lost as soon as ability to speak plainly was secured. They had evi dently heard the speech of those about them perfectly.

Perhaps my observations may be of interest to those studying such subjects and they may be able to explain if these conditions are due to some defect in the speech-centre (perhaps congenital?).

LILLIE E. WARREN.

243 WEST TWENTY-FIRST STREET, NEW YORK.
February 2, 1891.

PORK EATING AND CANCER.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Not long ago a paragraph was quoted in the RECORD, saying that cancer was unknown among the Jews, and that this immunity was due to the fact that they eat no pork. With the first statement I can have no quarrel, but the deduction from it remains to be proved.

The Mohammedans abhor pork as religiously as do the Jews. In all the interior of Asia Minor the pig is an utterly unknown animal, except from hearsay. I suppose this is true of the greater part of Turkey, but I speak positively only of that part of the country with which I am acquainted. Yet, in spite of this absolute absence of pork, cancer is by no means an uncommon disease. I have seen carcinoma and sarcoma among Mohammedans as well as among others in Turkey. Though cancer may be more common among pork-eating peoples, yet it must also have causes other than those due to the eating of this meat.

WILLIAM S. DODD, M.D.

VIENNA, January 27, 1891.

SULPHATE OF CINCHONIDINE IN INTERMITTENT FEVER.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In the MEDICAL RECORD for October 11, 1890, there is an editorial on sulphate of cinchonidia, in which an abstract of Dr. H. de Brun's study of this alkaloid is made.

The results of Dr. de Brun's investigations are referred to as if they were something new. The facts are, however, the same as have been known for many years. I would call your attention to a paper on sulphate of cinchonidia, published by me in the *Medical and Surgical Reporter* for February 14, 1874, based upon the action of the alkaloid in seventeen cases of malarial fever. In six of these quinine had already been given without success.

In the above contribution I referred to the successful use of cinchonidia in 129 cases of intermittent fever by Dr. Cullen, in 1855, and also to the report of the Madras Commission in 1868.

There is a popular prejudice in favor of quinine, and when the price of this salt is so low as it is at present many use it in preference to any of the other cinchona alkaloids.

Cinchonidia is, however, fully equal to quinia as an antiperiodic, and has some advantages over the latter in being more soluble, less bitter, and less likely to cause disagreeable head symptoms. Moreover, it is successful in many cases in which quinine has failed.

I believe that sulphate of cinchonidia is now used largely in the South and Southwest.

Yours very truly,

WHARTEN SINKLER, M.D.

PHILADELPHIA, January 24, 1891.

FROM ANOTHER POINT OF VIEW.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In the editorial columns of the RECORD of February 7, 1891, appeared the timely question, "Should a Poor Man Study Medicine?" The question is certainly one that invites reflection, and requires a thorough analysis of the condition and needs of the times as they bear upon the practice of medicine. The many, and increasing, free dispensaries in New York and other cities undoubtedly constitute grave obstruction to the progress and pecuniary welfare of young medical practitioners who depend upon civil practice in those cities for a living. But let us call attention to one fact that seems to have been overlooked. In the United States it is possible only for about seven millions of people to seek advice and treatment at free dispensaries. This is a liberal estimate, for it includes all the residents of those cities which contain free dispensaries.

Deducting this number from the total population leaves more than fifty-five millions of people to be treated by physicians, who need not be rich, but intelligent, honest, and competent.

To us it would seem unjust and unwise to make wealth a necessary qualification before a person can enter upon the study of medicine. Every one fully understands the magnitude of competition in a great city like New York, and anyone who feels himself unable to cope with this modern essential of city life, let him seek work in other localities.

I am, very truly, yours,

W. P. SPRATLING, M.D.

STATE ASYLUM FOR THE INSANE, MORRIS PLAINS, N. J.
February 11, 1891.

"RACIAL IMMUNITY AND INOCULATION."

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In the article under the above caption, by Albert S. Ashmead, in your issue for January 10, 1891, that author states that the Japanese enjoy immunity from scarlatina.

I wish to relate, in response, the history of a case which is now under my care. On January 19, 1891, I was called to see Mr. O. T——, aged twenty-two, of Tokio, Japan, who is at present a student at Cornell University. On the evening of January 18th he was taken with what he and his friends were pleased to call a bilious attack. He complained of a sore throat, and his temperature when I first saw him was 104° F., with accompanying severe prostration. The tonsils were ulcerated, and, to my surprise, there were decided evidences of scarlatina upon the roof of the mouth and the soft palate. Upon further examination of the body I found a complete eruption of scarlatina. The case, a sporadic one, was typical. Temperature at second visit 105° F., breath very offensive, and tongue much inflamed. In fact the case was more severe than any scarlatina case treated by me within the last eight years. The patient is at present convalescent, and desquamating extensively.

Having read the recent article of Dr. Ashmead it seems proper to record this case of scarlatina occurring in a native of Japan.

Yours very truly,

J. S. KIRKENDALL, M.D.

ITHACA, N. Y., February 1, 1891.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from February 8, 1891, to February 14, 1891.

MAUS, LOUIS M., Captain and Assistant Surgeon. By direction of the Secretary of War, is relieved from further duty at Fort Stanton, N. M., and will report in person to the commanding officer at Whipple Barracks, Arizona Ter., for duty at that station, relieving Captain Richard W. Johnson, Assistant Surgeon. S. O. 35, par. 7, A. G. O., Washington, D. C., February 12, 1891.

JOHNSON, RICHARD W., Captain and Assistant Surgeon. By direction of the Secretary of War, on being relieved by Captain Maus, will report in person to the commanding officer at San Carlos, Arizona Ter., for duty at that station. S. O. 35, par. 7, A. G. O., Washington, D. C., February 12, 1891.

JOHNSON, R. W., Assistant Surgeon. Granted leave of absence for one month, to take effect on or about February 10th instant. S. O. 16, par. 1, Department of Arizona, Los Angeles, Cal., February 4, 1891.

WOLVERTON, WILLIAM D., Major and Surgeon. Granted leave of absence for one month, to take effect on or about February 15, 1891. S. O. 15, par. 2, Department of the Platte, Omaha, Neb., February 7, 1891.

MERRILL, JAMES C., Captain and Assistant Surgeon. By direction of the Secretary of War, is relieved from duty at Fort Reno, Oklahoma Ter., and will report in person, at the earliest practicable date, to the Surgeon-General U. S. Army, in this city, for duty in his office. S. O. 29, par. 5, A. G. O., Washington, D. C., February 5, 1891.

Official List of Changes in the Medical Corps of the United States Navy for the week ending February 14, 1891.

AUZAL, E. W., Passed Assistant Surgeon. Detached from the Boston and ordered to the Lancaster.

CRAIG, T. C., Passed Assistant Surgeon. Detached from the Vesuvius and ordered to the Boston.

BRAISTED, W. C., Assistant Surgeon. Detached from Hospital, Hot Springs, and ordered to the Vesuvius.

FITTS, H. B., Passed Assistant Surgeon. Ordered to the Army and Navy Hospital, Hot Springs.

ARNOLD, W. F., Assistant Surgeon. Ordered to the Receiving-ship Vermont.

BLACKWOOD, N. J., Assistant Surgeon. Detached from the Vermont and ordered to the Newark.

ASHBRIDGE, RICHARD, Passed Assistant Surgeon. Ordered to the Navy Yard, New York.

NORTH, J. H., Assistant Surgeon. Detached from the Navy Yard, New York, and ordered to the Lancaster.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending February 14, 1891.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	12	5
Scarlet fever	178	26
Cerebro-spinal meningitis	3	3
Measles	462	19
Diphtheria	106	34
Small-pox	1	0
Varicella	9	0
Pertussis	1	0
Croup	2	0

Association of American Anatomists.—The third annual meeting was held at Boston, Mass., December 29 and 30, 1890, in the anatomical lecture-room of the Harvard Medical School. It was presided over by Dr. F. D. Weisse, second vice-president, and Dr. Thomas Dwight acted as secretary *pro tem.* Papers were read as follows: "Corrosion Preparations," by Dr. S. J. Mixter; "Studies on the Spine," by Dr. Dwight; "A Comparison of the Fibrin Filaments of Blood-lymph in Mammalia and Amphibia," by Professor S. H. Gage; "The Semilunar Bone," by Professor Shepherd; "The Structure of Protoplasm and Mitosis," by Dr. Carl Heitzmann; "The Homology of the Cerebro-spinal Arachnoid with the other Serous Membranes," by Professor Langdon; "The Occlusion of the Rhinocœle (Olfactory Ventricle) in the Dog," by Mr. P. A. Fish; and by Professor B. G. Wilder, "The Relation of the Olfactory to the Cerebral Portion of the Brain;" "The Brains of a Cat and of a Sheep Lacking the Callosum;" "Owen's Nomenclature of the Brain, with Suggestions Based thereon." With one exception the papers were illustrated by specimens, photographs, or diagrams, and all were fully discussed. The Committee on Anatomical Nomenclature, Professors Leidy, Harrison Allen, Frank Baker, Thomas Dwight, T. B. Stowell, and B. G. Wilder, were authorized to publish as their second report "such general and specific recommendations as may be unanimously agreed upon by them." The following were elected members: Dr. W. L. Dana, of Portland, Me.; Dr. John C. Munro, of Boston, Mass.; Mr. Pierre A. Fish, of Ithaca, N. Y. The next meeting will be held at Washington, D. C., at or about the time of meeting of the Congress of American Physicians and Surgeons, in September, 1891. The officers for that meeting are as follows: *President*—Dr. Joseph Leidy; *Vice-Presidents*—Drs. Frank Baker and F. D. Weisse; *Secretary and Treasurer*—Dr. D. S. Lamb; *Executive Committee*—Drs. Harrison Allen, Thomas Dwight, and B. G. Wilder.

Is "Parataloid" of Uniform Strength?—Dr. Andrew H. Smith writes, February 6, 1891: A recent experience leads to the question whether different specimens of Koch's fluid have necessarily the same strength. A patient at the Presbyterian Hospital, having pulmonary phthisis, was inoculated with gradually increasing doses until, at the tenth inoculation, $3\frac{3}{4}$ milligr. were employed. The reaction from this dose, as from all the preceding doses, was objectively almost nil, although subjectively there was slight malaise. Improvement in the physical signs was noted after five or six inoculations. The eleventh inoculation consisted of $4\frac{1}{2}$ milligr., and was made with a new specimen of parataloid just received from Berlin. The reaction began eight hours afterward, and attained its maximum in four hours. It was excessive, not to say alarming. The temperature reached $104\frac{1}{2}$° F., and the pulse 150. The whole chest was filled with moist râles; there were cyanosis and drowsiness. In the course of four hours more the temperature had declined to 102° F., and from that point it gradually sank to normal. The râles persisted for twenty-four hours longer, and then disappeared. The case was one of incipient phthisis, with indistinct physical signs, and with no elevation of temperature, and but for the presence of bacilli the diagnosis would have been doubtful. The lymph first employed produced the usual reaction in other patients. Inasmuch as the active principle of the lymph is the product of a vital process of which there can be no definite measure, it is hard to see how the conditions under which it is produced can be known to be uniform. Not being a definite chemical substance, parataloid cannot be subjected to quantitative analysis. It seems, therefore, that its strength can be determined only by experiment, and that great care will be required in changing from one specimen to another.

Will Explode if Mixed.—"Chemicus" writes that the solution of permanganate of potash and glycerine recommended by Dr. Dupon for the bites of venomous insects,

in a recent issue of the RECORD, is an impossible one, judging from his experience, and its attempted preparation dangerous. When glycerine is added to permanganate, deflagration ensues, and if the permanganate be gradually added to the glycerine, while solution may be quietly effected the decomposition is almost equally prompt. I would suggest that your readers be warned.

A New Table of Atomic Weights.—By request of the Committee of Revision and Publication of the Pharmacopœia of the United States, Professor F. W. Clarke, Chief Chemist of the United States Geological Survey, has furnished a table of atomic weights revised upon the basis of the most recent data and his latest computations. This table has been published and distributed, with the request that all calculations and analytical data which are to be given in reports or contributions intended for the use or cognizance of the Committee be based upon these values. The Committee in its pamphlet also suggests that it would be highly desirable that the table be adopted and uniformly followed by chemists in general, at least for practical purposes, until it is superseded by a revised edition. The recommendation is a wise one and deserves wide acceptance. Not that a difference of a fraction in the atomic weights of an element would materially affect the composition of a medicinal compound, but it is for the sake of unity that the table should be generally adopted. Chemistry is an exact science, and for chemists to be working with different valuations for the same element is confusing, and a sacrifice of uniformity and exactness that can and should be prevented. If all architects should follow their own ideas with no regard to the axioms of the science, a city could doubtless be built, but, to say the least, it would be picturesque. Likewise chemists can continue working with the atomic weights to which they are accustomed, but results would be much more satisfactory and uniform if a general standard were adopted. All calculations in reports to the Committee of Revision of the Pharmacopœia must be based on Professor Clark's table, or the committee will be compelled to revise the entire work. That the valuations of Professor Clark are deserving of acceptance goes with the saying, as he is one of the greatest of authorities, and has at his command every necessity and convenience for the work. We append that portion of the table which includes officinal elements :

Name.	Symbol.	Atomic Weight.	Name.	Symbol.	Atomic Weight.
Aluminium	Al	27.	Iron	Fe	56.
Antimony	Sb	120.	Lead	Pb	206.95
Arsenic	As	75.	Lithium	Li	7 02
Barium	Ba	137.	Magnesium	Mg	24.3
Bismuth	Bi	208.9	Manganese	Mn	55.
Boron	B	11.	Mercury	Hg	200.
Bromine	Br	79.95	Nitrogen	N	14.03
Calcium	Ca	40.	Oxygen	O	16.
Carbon	C	12.	Phosphorus	P	31.
Cerium	Ce	140.2	Potassium	K	39 11
Chlorine	Cl	35.45	Silicon	Si	28.4
Chromium	Cr	52.1	Silver	Ag	107.92
Copper	Cu	63.4	Sodium	Na	23.05
Gold	Au	197.3	Sulphur	S	32.06
Hydrogen	H	1.007	Zinc	Zn	65.3
Iodine	I	126.85			

Quill Drainage-Tubes.—Dr. Otis K. Newell, of Boston, Mass., writes: "In reply to one of your readers, would say, and should have said in my account of Dr. Beach's quill drainage tubes, that they are punched after soaking some hours in 1 to 20 carbolic acid solution."

How to Keep the Paquelin Cautery in Good Order. It is claimed that Paquelin's cautery would never be found out of order if the following instructions, given by M. Colin, were followed strictly: The benzine employed should be of from 700° to 720°, using the petroleum densimeter, at a temperature of 59° F., that is to say, it should weigh from 700 to 720 gm. to the litre. At most, it should not occupy more than a third of the capacity of the reservoir. In case of need, the hand-bulb may be replaced by a pair of bellows. During the whole operation, the temperature of the benzine should be kept at from 59° to 68° F., to accomplish which it is only necessary to hold the reservoir in the hand or carry it in one's pocket. Too high a temperature hinders the incandescence of the cautery. The platinum point should be placed in the lateral portion of the flame, at the level of the centre. Use pure alcohol for the lamp. Avoid heating the platinum to the luminous point. If the cautery cools off, work the bulb vigorously, and if necessary place the point in the flame again. When the operation is finished, before allowing the cautery to become extinguished, bring it to a bright red by a few rapid insufflations, and then, while it is fully incandescent, detach the rubber tube from the handle suddenly. Let the cautery cool in the open air. Cleanse it with a moistened rag. If the instrument is not used very often, it is well to heat the various points from time to time.—*New York Medical Journal.*

African Arrow Poison.—The poisons used by the natives of Africa to render fatal the wounds made with their arrows, as described by Mr. Stanley in his recent work on Africa, are, when fresh, of most extraordinary power. Faintness, palpitation of the heart, nausea, pallor, and beads of perspiration break out over the body with extraordinary promptness and death ensues. One man is said to have died within one minute from a mere pin-hole puncture in the right arm and right breast; another man died within an hour and a quarter after being shot; a woman died during the time that she was carried a distance of a hundred paces; others in varying spaces of time up to a hundred hours. The activity of the poison seemed to depend on its freshness. The treatment adopted was to administer an emetic, to suck the wound, syringe it, and inject a strong solution of carbonate of ammonia. This carbonate of ammonia injection seems to have proved a wonderful antidote if it could be administered promptly enough. One of the poisons with which the weapons are smeared is a dark substance like pitch. According to the native women, it is prepared from a local species of arum. Its smell when fresh recalls the old blister plaster. It is strong enough to kill elephants. This poison is not permitted to be prepared in the village. It is manufactured and smeared on the arrows in the bush. These results of the African arrow poison are quite remarkable; but it would be interesting to know if they owe anything to fear and its effects, or if similar results can be obtained by inoculating the lower animals.—*Medical and Surgical Reporter.*

Bacillary Partnerships.—In the course of some experimental investigations on the relationship of micro-organisms with diseased conditions Drs. Cornil and Babès have discovered that a certain affinity exists between particular species. In other words, the development of special varieties may be facilitated, or the reverse, by the presence or pre-existence of certain other varieties. In this way the occasional complication of an existing infectious disease by a second is not the result of mere chance, but is governed by some still undefined conditions of environment. In other instances this association of two or more species of micro-organisms is necessary to the evolution of the malady. This association is the rule in the infectious diseases of human beings, and it is often the secondary infection that determines the fatal issue. This partnership arrangement may take place between microbes belonging to more or less nearly related species, as is the case with the organisms of pneumonia and typhoid fever. Or there may be streptococci and bacilli together, as in diphtheria, or several varieties of streptococci, as in the infection of wounds. In fact, there is a large selection of these associations, some invariable, others frequent, and a third category, in which the secondary infection is accidental. These facts may possibly throw some light on the rhythm and sequence of the symptoms in the infectious diseases.—*The Medical Press.*

Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 39, No. 9.
Whole No. 1060.

NEW YORK, FEBRUARY 28, 1891.

$5.00 Per Annum.
Single Copies, 10c.

Original Articles.

INOCULATIONS WITH PROFESSOR KOCH'S "TUBERCULIN."[1]

By A. JACOBI, M.D.,

LATE PRESIDENT OF THE NEW YORK ACADEMY OF MEDICINE, CLINICAL PROFESSOR IN THE COLLEGE OF PHYSICIANS AND SURGEONS, ETC.

INOCULATIONS were commenced by me December 10th in the Mount Sinai Hospital, on the very day when Dr. Kinnicutt made his first injections in St. Luke's. On the following day I began in the German, two days after, at the suggestion of Dr. Reid, attending physician, in the Foundling Hospital. At a later period a case of epithelioma was observed, and inoculated for a while in the Skin and Cancer Hospital. The majority of the cases in the Mount Sinai Hospital belonged to the service of Dr. I. N. Heinemann, attending physician, a number were also furnished by the other physicians and surgeons of the institution, and some of the most interesting material by Dr. Goldenberg. To Dr. Heinemann belongs the credit of having spent a great deal of time and labor on the numerous cases gathered in that institution, while I attended the other places. He will appear before you with the reports of what he has observed and accomplished. The cases which form the basis of my report number about sixty, fifty of which were observed in the German Hospital and I are carefully tabulated. They comprise nearly all the varieties of tuberculosis, that of meninges, lungs, glands, bones, peritoneum, joints, every one of which was carefully watched by a most competent house-staff and painstaking nurses both day and night, and temperatures taken, with rare exceptions in rectum or vagina, almost in every case every two or three hours for weeks in succession. I may be permitted to add a single remark, viz., that from the beginning I have tried to be as unbiassed in my observations and experiments as would be permitted by the overpowering sense of the influence of a scientific discovery of extraordinary weight and importance.

The effects claimed by Robert Koch for his "Tuberculin" are as follows:

Its action on tubercular processes of whatever nature, is specific. It is either general or local. Reaction in internal organs cannot always be proven, because it is not amenable to direct observation, with the exception of increased cough and expectoration; here the general reaction predominates. There are local changes in the visible tubercular processes. An injection of 1 ctgr. always has that effect. Therefore, the lymph is an indispensable means of diagnosis. When the diagnosis of tuberculosis cannot be obtained by the finding of bacilli or elastic fibres in the sputa, tuberculosis can with safety still be diagnosticated by the presence of the reaction. In the same way doubtful cases of glandular, osseous, and cutaneous disease can be recognized.

The action of the lymph on the tissue surrounding the bacillus is marked. It produces changes resulting in necrosis of that tissue without destroying the bacilli. In the beginning small doses are sufficient, afterward larger ones are required. When a tuberculous patient requires as large doses as a healthy person, at the same time exhibiting as little reaction as the latter, it is to be presumed that all the tuberculous tissue amenable to reaction has been destroyed.

Phthisical patients in the first—incipient—stage were relieved of all morbid symptoms in from four to six weeks, so that they could be considered as cured.

Patients with cavities of moderate size were much improved and almost cured. Thus it is to be presumed that incipient phthisis can certainly be cured through this remedy. Relapses are possible, for the time of observation has been too short. Still it is fair to presume that relapses will be removed as quickly as the first attack.

The general reaction means increase in temperature. It seldom appeared after an hour or two, generally after from four to nine hours, reached its maximum mostly about the ninth or twelfth hour, and diminished gradually. Sometimes after it had commenced to sink it had another rise, as you will remember to have seen in many of your cases of typhoid fever, where a double curve is not unusual. In a number of my children the temperature rise was not marked. Proportionately large doses were required. There is a parallel, perhaps, with what we notice in other circumstances. For instance, cardiac stimulants require larger doses, comparatively, in children, and in them also the effect of the typhoid infection is less marked. Both the typhoid virus and the Koch virus are ptomaines. Still this is but a suggestion.

The general reaction was noticed in many cases after doses of 1 or 2 milligr. That effect was not obtained when, after a brief time, ten or twenty times as much was injected.

The increase of temperature would often correspond with pulse and respiration; sometimes these two would not, or not much, be affected. The general condition of the patient would mostly be altered with the change of temperature, but not always in the same proportion. Sometimes there was comfort with high temperature, sometimes great discomfort, languor, muscular pain; once a localized pain in a distant organ (the left arm) when the right elbow was affected, rigor, perspiration, with a moderate temperature; in one case (with no rise of temperature) there ensued very great dyspnœa, angina pectoris, fear of annihilation, which required active medicinal interference.

Instead of rising after the inoculations, the temperature may fall, but the patient's comfort may increase. At the same time, with a low temperature, and feeling comfortable, he may improve, or not improve, or get worse. The temperature may also fall, but the patient, while getting worse, may also feel worse.

In cases of non tubercular lungs (suspicious or not) the temperature may rise, or no. In those of tubercular lungs I have seen inoculation raise the temperature, not influence the temperature, and reduce the temperature. The changes in the lungs were not uniform. The usual results of an inoculation were diffuse rhonchi, sometimes dyspnœa, and increased expectoration, which became more mucous, and was a few times tinged with blood. Thus it happened that in one case the number of râles and of indurated areas increased in number and extent; sometimes with dangerous, either temporary or persistent results. Sometimes this effect remained more or less stationary, sometimes it wore off in a day or two. In other cases there were no direct local changes, and still there was an improvement of both subjective and objec-

[1] Read before the Medical Society of the State of New York, February 4, 1891.

tive symptoms. The absence of bacilli in the sputum does not speak against the tubercular nature of the case as long as the time of observation is but a few weeks.

Respiration was often accelerated and superficial, but seldom more than in its due proportion to the increase of temperature. Anorexia and nausea were frequent, vomiting not uncommon. Jaundice I have not seen, with the exception of a very slight touch in a single case; a few times I met with small quantities of albumin in the urine, mainly during high temperatures.

In a small number of cases, mainly such as had a high temperature, the spleen would swell and sometimes be painful, on the second day or later. Another symptom of ptomaine infection was the peculiar appearance of the tongue, accumulations of epithelium in the middle, elevation and redness of papillæ, intense raspberry or scarlet redness of the edges.

Local reaction was sometimes observed round the site of injection; in many cases there was no pain, in others there was. In a minority there was some local redness, in a few some swelling, a day after the inoculation. The eruption was in one case of the size of a hand. A general eruption I have seen but once, when, three days after the first inoculation was made (this time of 1½ milligr.), almost the whole body of the child was covered with a papular rash; afterward 10 milligr. were injected without any such result. Another form of local reaction is that observed near the tubercular locality. It consists in local congestion, redness, swelling, sensibility of the affected parts, be it lupus, gland, sinus, or bone; or such changes in the pulmonary tissue as have been alluded to. It must be said, though, that this may also take place in tissues not affected by tuberculosis.

For the purpose of diagnosis lymph was injected into Louisa K—— , aged twenty. She was admitted November 14th, with the diagnosis of peritonitis, probably carcinomatous. There being a strong doubt expressed because of the youth of the patient and for other reasons, lymph was injected on four successive days—2 milligr., 4 milligr., 5 milligr., 5 milligr. No reaction. The larger number of such administrations in tuberculosis proving successful in producing a reaction, the diagnosis of carcinoma was considered justified.

Maria T—— , aged twenty, admitted January 17th. Had a cough since last summer with moderate expectoration. sometimes with a little blood, and some dyspnœa. Ten days ago a chill, pain in her throat; stopped work four days ago; has a "cold," coughs considerably, bled from the nose once. Had no fever when admitted. Over right upper lobe anteriorly, dulness and coarse respiration, some bronchophony. Posteriorly, prolonged respiration. Bacilli not found. On three successive days, 2, 4, and 6 milligr. were injected without any effect. Meanwhile she improved while in bed. The physical lung symptoms are probably due to the results of an interstitial pneumonia in early life.

Lena K——, aged nineteen, admitted December 31st, with symptoms of gastritis, and coarse respiration, with moderate dulness over right upper lobe both anteriorly and posteriorly. No response to 2 milligr. Probably the same conditions as in the previous case.

Kate S——, aged twenty-three, admitted November 22d, with fibrinous pneumonia and pleuritis of the left side. When, about the middle of December, resolution was not complete, dulness and some cough, also rhonchi, persisting, the suspicion of the presence of tuberculosis induced me to use the lymph. Very soon bacilli were found. From December 16th to 23d she received five injections of from 1 to 4 milligr. Reactions were quite marked, and she felt badly. Therefore the treatment was interrupted ten days, and resumed with occasional doses of 5 or 6 milligr. Since January 22d she is on daily doses of 3 milligr., during which she had less fever than before and feels better. Still the physical examination of her left lung and pleura is unsatisfactory; particularly as when there was a considerable reaction the whole chest was full of crepitant, subcrepitant, and sibilant râles. Indeed, she is one of the cases which appear to respond so thoroughly, locally, that the fear is justified that the congestion of the pulmonary tissue resulting from the injection may prove dangerous.

Max H——, aged four, admitted January 18, 1891; service of Dr. Kammerer. Scrofulous dermatitis of face. About the ascending ramus of maxilla, left side, the skin is red, indurated, and partly ulcerating and proliferating. Internal organs healthy. For the purpose of diagnosis some inoculations were made, twice of ½ milligr., once of 1, and once of 2 milligr. The latter dose raised the temperature to 102.6° F. within twelve hours, but there was no local reaction, and the inoculations were discontinued.

Conrad S——, aged forty-six, admitted November 11th. Tumor in larynx and ulcerations. Dulness over right lung, rhonchi, no bacilli found in repeated examinations. Deglutition and articulation difficult. Had chancre twenty-eight years ago. Iodide of potassium and inunctions proving rather inefficient, he was given the benefit of the doubt, and three injections were made on January 16th, 17th, and 18th, of 2, 5, and 7 milligr. As no reaction became visible, the anti-syphilitic treatment was resumed.

Ernst S——, aged forty-two, admitted January 2, 1891, with temperature 101.1° F., has a small ulceration on the right side of epiglottis, with some surrounding infiltration. One cervical gland. The diagnosis of syphilis very probable, but as there was a dull area over the right apex, he was given the benefit of the doubt. Injections were made

January 2d. Two milligr. After six hours temperature fell to 99.5° F.

January 4th. Four milligr. No reaction, except, perhaps, the temperature of 101° F., which he had before, thus the anti-syphilitic treatment was commenced in earnest.

P——, grocery boy, aged fifteen, admitted January 12th, to Dr. Kremer's service. Dermatitis genu chronica. Scrofula in childhood. Popliteal gland removed six months ago. Since an indurated area in the popliteal region six inches in length. Internal organs negative. For the purposes of diagnosis four inoculations were made on January 13th, 16th, 17th, and 18th, of 1, 2, 4, and 6 milligr., without any reaction. The probability was that the dermatitis is not tuberculous, a piece of the skin was then removed for examination, and no bacilli found.

Caroline L——, domestic, aged thirty-six. Had the last of several pneumonias in February, 1889, frequent attacks of dyspnœa and catarrh since, and moderate cough. Some phthisis in the family. On December 21st, beside a number of gastric symptoms of which she complained, she had extensive dulness and diminished respiration on the right side, the seat of her last pleuro-pneumonia.

One milligramme of lymph was injected at noon, December 20th. Pulse rose from 90 to 100 at 2 P.M.; temperature from 98.6° to 100° F., at 8 P.M. It remained at from 100° to 101.2° F., until next noon, when 2 milligr., were injected. It did not influence the temperature, which remained about the same (100° to 101.2° F.) until noon December 22d. The first two nights, however, she coughed more than usual, had dyspnœa, palpitation, and perspiration, also dizziness and headache. She expressed the same complaints the following days, lymph or no lymph, while her average temperature was less. Only once, on December 23d, it rose to 100.4° F., also on December 24th, at 5 P.M. Then 3 milligr. were injected at 7 P.M. Ten hours afterward, at 5 A.M., December 25th, temperature 98.6° F., at 8 A.M., 101°, the highest temperature of the day except 101.4° F., at 8 P.M. Temperatures up to 101° F. were observed on December 26th; 100.8° F., also at 8 A.M., December 27th. After that time until January 5th, when she left the hospital, the temperature was normal, though she complained of alleged chills, headaches, back-aches, stomach-aches. After all we can say

that as the lymph had a negative result, both generally and locally, the changes in the lungs were not likely to have assumed a tubercular character—provided that the majority of lymph results are of the diagnostic importance attributed to them by Robert Koch.

A. W——, aged fifty six, musician, admitted December 20th. Complained these three months. Has anorexia, ascites, icteric complexion, is feeble. Urine scanty. No history of alcoholism. On examination: Temperature, 99.8° F.; pulse, 120, very feeble. Urine with trace of albumin. Heart negative. Over left lung, superiorly, dulness and coarse breathing. Ascites with but moderate sensitiveness. Iodide of potassium, 2 gm. daily. Paracentesis with permanent drainage; 2,000 gm. on December 25th, 3,000 on the 26th, and 500 on the 29th. On the last two days the fluid was less clear, and contained blood and pus-cells. He was gradually sinking; no good, no harm could be done. One milligr. of Koch's lymph was injected December 31st, at 7.50 P.M., while his rectal temperature was 97.5° F. No reaction of any kind; he continued to sink until January 1st, when he died at noon. No autopsy permitted.

Betty S——, aged thirty, admitted November 22, 1890, six weeks after her sixth confinement, for general debility, dyspnœa, abdominal and dorsal pain, leucorrhœa, pelvic symptoms. Uterus large and catarrhal. Dulness over right lung, anteriorly, and coarse and prolonged expiration. For the purpose of diagnosis 1 milligr. of lymph was injected December 28th, with no increase of temperature, but marked perspiration. On the evening of January 14th, 2 milligr. were injected, temperature being as always, 98.6° F. Within seven hours, at 2 A.M., it rose to 100.6° F., and had commenced to fall at 5 A.M., when it was 99.6° F. Left the hospital.

Robert N——, aged forty-four, working man, admitted November 29, 1890. Complained of his stomach these fourteen years. For three weeks vomiting, mucous expectoration, and cough. Had chills and pleuritic pain, and lost flesh. Has some dulness over upper lobe, superiorly, and sibilant and mucous râles during inspiration and expiration. No pus, no bacilli. Had temperatures in the first ten days, on December 8th, 103° F., but only once, after that temperature, mostly normal, some few times 101.2° F. On the afternoon of December 16th temperature rose once to 102.8° F., and again on the 17th. For the purpose of diagnosis, 1 milligr. of lymph was injected on the evening of the 17th. For twenty-four hours subsequently the temperature changed between 101.2° and 102.5° F., then it rose to 103.2° and 104.2° F., about twenty-four hours after the inoculation. There were more rhonchi, this time over the whole chest; more dyspnœa. Death occurred on the 19th. No autopsy permitted; perhaps the question might have been settled whether through our congesting and softening the tissue which surrounded the nests of bacilli we hastened the man's death. For though no bacilli were found, I have no doubt it was a case of tuberculosis.

Rosa J——, aged thirteen, had undergone an operation for swollen cervical glands on the right side. Left in September apparently in good health. Admitted December 31st, because of general indisposition and fever. At the upper end of the cicatrix a glandular swelling. Over the right upper lobe diminished respiration behind, and some dulness both anteriorly and posteriorly. A few days in bed restored her temperature almost to the normal. After the evening of January 4th the temperature never rose. For the sake of diagnosis lymph was injected. One milligr. on the morning of the 3d; 2 milligr. on the evening of the 4th; 5 milligr. on the evening of the 6th; 10 milligr. on the evening of the 7th; with not a trace of response. Inoculation was stopped. We also learned from Dr. Kammerer, who performed the operation in July, that the glands he removed were not considered tuberculous. This case would then be conclusive of the motto: "No tuberculosis, no reaction."

A number of cases of external ("surgical") tuberculosis, with two of epithelioma which were introduced as probable cases of lupus, are as follows:

A boy, aged four, with tuberculosis of right knee, tubercular glands of neck, and infiltration of right apex; also an abscess of the right thigh in which bacilli were found. Inoculations were made, twelve in number, ranging from one-half to ten milligrammes. There was some slight response to the first, induced rather more by the first small injections than by the later ones, which were large. No correspondence between such response as was elicited by the lymph in the beginning and the pulse and respiration. This correspondence was more distinct on the last two days of the observation when no inoculations were made; but then the fever was considered the result rather of the suppurating thigh than of the lymph. The final dose of 10 milligr. was rather a large one, but no reaction distinctly attributable to it made its appearance. No change.

Harry C——, aged five years eight months, with tubercular abscess (bacilli found) in right inguinal region, presumably from lesions of lumbar vertebræ. Examination of viscera negative. The first inoculation of half a milligramme resulted in a distinct reaction, which showed itself in a rise of temperature and of respiration, not of the pulse. Afterward the reactions were but trifling, or negative, even with a dose of 10 milligr. No improvement.

E——, aged four years eleven months, tubercular disease of left hip; discharging sinus. Examination of viscera negative. Fourteen inoculations between December 13th and January 3d, from one-half to ten milligrammes. The first small inoculations resulted in positive reactions, the temperature rising to nearly 104° F.; the last large ones in none, or none attributable to the remedy. No improvement.

W. C——, aged four years nine months; dorsal spondylitis; kyphosis. Lungs negative. No bacilli were found, and therefore no tuberculosis could be proven. There was, however, a pretty smart double reaction after the first injection of half a milligramme. Very little reaction took place after the subsequent doses, from one to ten milligrammes. Cervical glands became tumefied. Induration and moderate redness of the injection site appeared a day after inoculation in this and the preceding three cases. Reaction, such as it was, took place in from four to fourteen hours. The pulse was more influenced than respiration.

I. T——, aged four years and a half. Cold abscess, probably from right sacro-iliac synchondrosis. Heart and lungs normal. Operations on September 26th and October 13th. Afterward the general condition good. No temperatures. Wound almost healed on December 1st, but his condition remaining stationary for some time, ten inoculations were made between December 13th and 30th, gradually rising from 1 to 5 milligr. On January 1st the examination of the boy showed condition generally good, the wound, however, but slightly improved. The first injection of 1 milligr. showed the most marked results; reactions occurred in from ten to twenty-two hours, and grew less and less unless the doses were increased.[1]

Auguste M——, aged three. Tuberculosis of left tibio-tarsal articulation. Removal of sequestrum, etc., in September, after that temperature normal, moderate suppuration of fistula, swelling of inguinal glands.

December 11th, one milligr. at 4.45 P.M. After midnight temperature 102°, 102.5°, 102.8° F. As the temperature was still high on the twelfth, I injected only three-fourths milligr. Temperature rose in a few hours to 103.5° F., child somnolent, perspiring. Perspiration continued all night, though temperature was gradually falling.

On December 13th temperature only 100.8° F., less suppuration, no pain. Injected 1½ milligr.

[1] A detailed account of these five cases will be published in the Archives of Pediatrics, March, 1891.

December 14th. Child feels well, suppuration trifling. Temperature, 101.2° F.

December 15th. Injected 1 milligr. Sinus is closing.

December 16th. Injected 2 milligr. Perspiration; rhinitis.

December 18th. Injected 3 milligr. No symptoms.

December 20th. Injected 3 milligr. Temperature rose to 103.8° F., and remained above the normal all next day.

December 22d. Injected 4 milligr. Temperature, 101.4° F.

On December 24th, 26th, 28th, 30th, and January 2d, injections of 5 milligr. each, with but slight elevation of temperature and improvement in the local symptoms. Within a week after the doses were increased, with but slight increase of temperature, until on January 13th and 16th 10, and on the 17th 15 milligr. were injected without a rise of temperature. Four days afterward the child had a temperature of 101° F., a flushed face and a rapid pulse, without any assignable cause, unless it be a retarded effect of the inoculation. On January 27th the fistula greatly improved, not so deep as before, and with less secretion, still not entirely closed. The child in a fair condition.

Elise W— , aged eleven. Cutaneous tuberculosis, admitted December 18th. Family is tuberculous. Child had eczema. Underwent an operation at elbow-joint five years ago. Has an ulceration of the size of a silver dollar on the right side of neck, also one two inches long on chest; lungs normal. Inoculations the only treatment.

December 18th. Injection of 1 milligr. Highest temperature, 101.2° F. Itching on ulcerations.

December 20th. Injection of 1 milligr. 101.2° F.

December 21st. Injection of 1 milligr. Temperature normal.

December 22d. Injection of 2 milligr. Highest temperature, 102.3° F. Epistaxis and headache.

December 25th. Injection of 3 milligr. Temperature, 102.8° F.

December 26th. Injection of 3 milligr. No reaction.

December 27th. Injection of 3 milligr. Highest temperature, 102.6° F. Epistaxis, headache, palpitation.

December 29th. Injection of 5 milligr. Temperature, 100.6° F. Mild collapse. Subcutaneous injection of camphor.

December 31st. Injection of 6 milligr. No reaction.

January 3d. Injection of 6 milligr. Highest temperature, 101.1° F.

January 4th. Injection of 6 milligr. Little reaction.

January 6th. Injection of 6 milligr. No reaction.

January 7th. Injection of 8 milligr. No fever. Epistaxis. Headache.

January 9th. Injection of 10 milligr. No reaction.

January 13th. Injection of 10 milligr. No reaction.

January 16th. Injection of 10 milligr. No reaction.

January 17th. Injection of 15 milligr. No fever. Epistaxis.

January 27th. Injection of 10 milligr. No reaction. On this day the ulcerations were much improved, but not altogether well.

Annie T——, aged nineteen, housewife, admitted December 13th. Diagnosis: tuberculosis of right knee. Swelling began a year ago; also treatment, with variable results. Father died of consumption. All organs normal.

December 13th. Injection of one milligramme. Pain in the affected knee extending to hip; otherwise no change. On the 14th, swelling and fluctuation appear less.

December 14th. Injection of 4 milligr. Slight pain and redness and swelling at point of inoculation. After seventeen hours temperature, 101.2° F.

December 15th. Injection of 4 milligr. On the 16th highest temperature, 100.3° F. No other symptoms.

December 17th. Injection of 5 milligr. Next day temperature, 100° to 100.3° F. during twelve hours.

December 19th. Injection of 6 milligr. After twelve hours, temperature, 100.1° F.

December 20th. Injection of 8 milligr. After four hours, temperature, 101.4° F.

December 22d. Injection of 10 milligr.

December 30th. Injection of 10 milligr., with a temperature of 100.4° F. twenty-one hours after inoculation.

By some mistake the impression was gained that no reaction had taken place after the several doses, and inoculations were discontinued. They were renewed only after some weeks, when the true state of affairs was found out. At that time the apices also seem suspicious. No improvement.

Daniel D——, aged forty-two, admitted December 12th. Tuberculosis of right elbow-joint. Slight dulness over apices. Eight inoculations were made, of from one to five milligrammes in the course of a month, besides two surgical operations on December 16th and January 7th. The reactions after the injections were very marked, particularly after the first three or four, but the general condition and the total trouble of the patient leave much to be desired.

A——, working-man, forty-three years of age; admitted December 31st. Underwent a resection because of tuberculosis of ankle-joint years ago, with complete recovery. Suppurating fistule in the cicatrix this last month, an inch and a half deep, terminating in carious bone. Over right upper lobe, anteriorly, slight dulness and slightly bronchial respiration.

January 6th. Injection of 1 milligr. Temperature normal; pain in joint; headache, dizziness; appetite impaired.

January 11th. Injection of 2 milligr. Temperature, 102.6° F. Severe headache; palpitation; oppression.

January 13th. Injection of 2 milligr. Temperature, 101.4° F., twenty four hours after injection.

January 16th. Injection of 3 milligr. Temperature, 103° F. Palpitation, headache; feels "as if he were going to die."

Refused to be inoculated. An operation on diseased joint. General condition good.

Elise S——, aged sixty two. Admitted December 19th. Knee swollen a year ago, is painful and stiff; some cough; some dulness over right upper lobe; universal rhonchi. Temperature, 101.4° F.; pulse, 110.

December 22d. Injection of 2 milligr. After twelve hours, temperature, 103.1° F.; begins to fall six hours after.

December 23d. Injection of 3 milligr. After sixteen hours, temperature, 102° F. Pain in knee.

December 25th. Injection of 3 milligr. No change.

December 28th. Injection of 3 milligr. Temperature, 101.3° F.

December 29th. Incisions into the joint on either side; removal of tubercular granulations. Drainage and iodoform; ether. Purulent secretion from vagina; pain in abdomen.

December 31st. Injection of 6 milligr. The usual increase of temperature.

January 4th. Injection of 6 milligr. After sixteen hours, temperature, 104.2° F.; pulse, 122. Pain; some cough.

January 10th. New operation. More removal of granulations. Fever, dry tongue, intermittent and frequent pulse. Fever and increasing debility; pulse weaker; some cough the following days. Dies January 17th.

Autopsy: Tuberculous knee-joint; large abscess of fifth left rib; general miliary tuberculosis of lungs, liver, and spleen.

Ida S——, aged sixteen, caries of vertebræ and ribs. Admitted October 2, 1890. Was well up to two weeks before her admission, with the exception of general discomfort, debility, and emaciation, which had lasted five or six months. Family history, heart, lungs, and kidneys negative. She was treated with incisions, scraping

of the carious rib, injections of Thiersch's solution and iodoform in oil. Temperature ranged from 99° to 104° F.; pulse, 90 to 135. Her general condition improved gradually.

First inoculation of 1 milligr. on December 11th, while temperature was 102.2° F. Next morning temperature, 99.3° F., with pulse and respiration diminished accordingly, and less pus.

December 12th. Injection of 2 milligr. Temperature, 100.4° F., some perspiration; some cough. After sixteen hours, temperature, 99.3° F.; pus much less. After sixteen hours, temperature, 98.7° F.

December 13th. Injection of 3 milligr. Old sites of injections congested and painful. Feels well. Pale face. Next day more pus. Feels improved.

December 14th. Injection of 3 milligr.

December 15th and 16th. Injections of 4 milligr. Secretion less.

December 17th. Injection of 5 milligr.

December 18th. Injection of 7 milligr. Profuse perspiration; thirst; secretion trifling.

December 19th and 20th. Injection of 8 milligr. each. Temperature normal.

December 22d. Injection of 10 milligr. After twelve hours, temperature, 104° F.; pulse, 98; headache, restless. Six hours later, temperature, 97° F.

December 25th. Injection of 10 milligr. After twelve hours, temperature, 100.4° F.

December 27th. Injection of 15 milligr. Highest temperature, 100.4° F.

December 31st. Injection of 20 milligr. After sixteen hours, temperature, 101.2° F.; pulse, 120. Face pale, eyes sunken, marked anæmia, but appetite good. Iron.

No inoculations on January 3d and 5th, with afternoon temperature of 101.4° F., and pulse, 120.

January 6th. Injection of 30 milligr. Twelve hours afterward, temperature. 101.4° F., and pulse. 110. Eighteen hours afterward temperature. 101.1° F., and pulse, 112. Twenty-four hours afterward, temperature, 101.4° F.. and pulse, 112.

Inoculations were discontinued. General condition not changed. Fistula as deep as before. but secretion slightly less, purulent, contains bacilli. High degree of anæmia. Physical symptoms not altered.

Wilhelmine K——, aged nineteen, admitted December 11, 1890, for lupus vulgaris of upper lip, nose, and eyelid. Father died of pulmonary tuberculosis nineteen years ago. She had, when young, conjunctivitis, cervical adenitis, scarlatina, and measles; also eczema capitis. Lupus commenced eight years ago on the nose, and spread to upper lip and part of left cheek. Has been operated upon several times. The lower part of the nose is deformed by loss of substance, the nares impervious; the upper lip shows several hard cicatrices. Some noduli still present. Upper lobe of right lung somewhat dull. No bacilli found in sputum.

December 11th, 4.45 P.M. Injection of 1 milligr. Temperature rose to 100.2° F. within an hour; was subnormal, 97.2° F., within two hours; after five hours pain around site of injection; after seven hours, nose and lip congested and with the sensation of tension. Afterward some cough; little sleep. Redness and œdema of nose and cheek very marked within sixteen hours. Headache and dizziness. After eighteen hours, temperature 102° F., pulse 112° F., respiration 26. Nose and lip purplish; pain in chest; chilly, hot, perspiring. After twenty-four hours, temperature 101.2° F.

December 12th. Another inoculation of 2½ milligr. Pain; cough. Some distinct pustules in the area of lupus. Cough and rigor; temperature, 103.1° F.

December 13th. Itching of nose and lip. Temperature falls some; rises again to 103° F.; normal at 10 P.M. No injection. Still in the night two chills without a rise of temperature, and pain in left shoulder.

December 14th. 7.30 P.M. Injection of 4 milligr. Temperature rises after nine hours to 104.5° F. within fourteen hours; normal in twenty-six hours. Meanwhile four chills, headache, pain about chest. Nose and upper lip swelled and congested. Desquamation on nose.

December 16th. Injection of 5 milligr., with the same result as to temperature. Less local congestion, hardly a rigor, the newly-formed pustules and the noduli of lupus much smaller.

December 18th. Injection of 5 milligr.; highest temperature, 102.4° F. Coryza, scales fall off.

December 20th. Injection of 7 milligr.; highest temperature, 102.2° F.

December 22d. Injection of 8 milligr.; highest temperature, 101.7° F.

December 23d. Injection of 9 milligr. Highest temperature, 100.2° F.

December 24th. Injection of 10 milligr. Highest temperature, 99.2° F.

December 25th. Injection of 12 milligr. Highest temperature, 100.1° F. after the lapse of twenty-four hours.

December 26th. Injection of 15 milligr. Highest temperature, 99.9° F.

December 27th. Injection of 15 milligr. Highest temperature, 100° F. after twenty-four hours.

December 29th. Injection of 20 milligr. Highest temperature, 100.2° F. after twenty-four hours.

January 3d. Injection of 15 milligr. Highest temperature, 100° F.

January 5th. Injection of 15 milligr. Highest temperature, 99.4° F.

January 7th. Injection of 25 milligr. Highest temperature, 100.8° F. after twenty-two hours.

January 8th. Injection of 40 milligr. No rise of temperature. After thirty-three hours, 97.4° F. A few hours after the injection an attack of angina pectoris, pain, oppression, fear of impending death. Inhalations of amyl nitrite relieved her.

January 16th. Injection of 50 milligr. Highest temperature, 101.8° F.; pulse, 40.

January 18th. Injection of 60 milligr., without any reaction.

January 24th. Injection of 80 milligr. Some hours after, without a change of temperature, attack of angina pectoris, face pale, pulse so frequent as not to be countable. Pain and sense of constriction; distinct blowing murmur at apex. Morphine did not relieve her, amyl nitrite did.

January 29th. Injection of 30 milligr. No change of temperature, but palpitation and pain in chest. After seven weeks' treatment the lupus is very much improved, the deformed nose is of normal paleness, the lips still red in places, some lupus noduli on lip still perceptible, lip still hard, part of this hardness, however, due to old cicatrices resulting from operations. Though there be no cure, the improvement is such, when compared with the results of any operative procedures known, as to be very encouraging.

Amos D——, aged sixty-six, admitted December 31, 1890. Diagnosis: Epithelioma of face, right side (was announced as lupus). Ulceration of face was observed fifteen years ago. Many attempts at a cure. Lately in Chicago arsenic paste, with the result of digging a square large hole into the malar bone which is superficially necrotic, and destroying the external angle of right eye. Normal organs. Insisted upon lymph treatment.

January 1st. Injection of 2 milligr. Eruption began to rise half an hour later. Temperature was 101.2° F. after three hours; fell; rose again, until after twelve hours it reached 101.8° F. It was not normal until thirty-six hours after inoculation. Wound not changed, but eyelids swollen and red.

January 3d. Injection of 2 milligr. Temperature, 100.3° F. four hours after inoculation, and slight rigor.

January 4th. Injection of 3 milligr.

January 5th. Injection of 5 milligr. No increase of temperature; some pain in eye and about the site of inoculation.

January 6th and 7th. Injection of 10 milligr. each.

January 8th. Injection of 15 milligr.

January 9th. Injection of 20 milligr., after which, on the next day, temperature, 101.5° F.

January 11th and 13th. Injection of 25 milligr.

January 16th, 20th, 22d, and 30th. On the 19th he had once a temperature of 100.8° F., but in no connection with an injection.

January 25th. Injection of 40 milligr. Through all these days no rise in temperature, and no local effect. The wound healed slowly under a boric and salicylic acid ointment.

Reactions set in at first as they do in the well, in from one half to twenty-two hours. This effect was obtained with 2 milligr., while afterward 20 and 40 had no effect whatsoever. There was no apparent effect on, or improvement of, the local lesion attributable to the use of "tuberculin."

James C——, aged forty-one; admitted January 3d, for alleged lupus, which proved epithelioma of the eyelids and temporal regions of left side. It had lasted seven years and had undergone several operations in the last two years. Five milligrammes were injected January 4th at 4 P.M. at a temperature of 98.4° F. Nine hours later it was 97° F.; fifteen hours, 96° F.; seventeen hours, 98° F. During this time slight fulness in head, pulse smaller and somewhat quicker.

On January 5th injection of 10 milligr. Slight increase of temperature and swelling of spleen on the 6th.

On January 8th injection of 30 milligr. at 9 A.M. Temperature rose soon, and reached 103° F. within ten hours. Lymphatic glands enlarged on the side of his chest, which were quite painful.

January 11th. Injection of 40 milligr. Temperature rises only to 100.2° F. Feels perfectly well.

January 15th. Injection of 50 milligr., with no effect whatsoever.

January 18th. Injection of 33⅓ milligr. No effect.

January 21st. Injection of 66⅔ milligr. Temperature eight hours after, 101.4° F.; otherwise no effect either local or general.

January 25th. Injection of 87½ milligr. No effect at all; complains, however, on the 26th that his bones ache and his shoulders are lame. Better on the 27th.

January 28th. Injection of 72½ milligr. No effect, and the ulcerations in about the same condition as in the beginning; some new granulations on the edge of lower eyelid. No improvement.

(To be continued.)

Changes in the Myocardium in Valvular Disease.—Dr. Krehl subjected the heart in seven cases of chronic valvular disease to exhaustive microscopical investigation, and obtained some suggestive results. In every instance there were present disseminated endocarditis, pericarditis, endarteritis of the small arteries of the myocardium, and fibrosis with extensive muscular atrophy. These anatomical characters present the character of progressive inflammation, and are most extensive in cases perishing from failure of compensation. They are of a kind calculated to lower the cardiac activity, and their significance in practical medicine is readily appreciated. In every instance of heart disease that comes before us with symptoms of failure, particularly in cases of dropsy, we must inquire of ourselves what is likely to be the condition of the muscular walls which are liable to suffer in this way. Before we can employ digitalis, nux vomica, or other cardiac remedies with intelligence, we must do our best to estimate to what degree and to what extent the muscular tissue and its arteries, on which we intend these drugs to act, are free from inflammatory and degenerative changes. —*Centralblatt für klinische Medicin.*

REFLECTIONS AND OBSERVATIONS UPON THE FORMATION, STRUCTURE, FUNCTION, AND PATHOLOGY OF FISTULOUS TRACKS OR SINUSES;

Especially those which Constitute Anal and Rectal Fistulæ; and the Tendency of Such to Spontaneous Obliteration and Cure.

By WILLIAM BODENHAMER, M.D., LL.D.,

NEW YORK.

It will be conceded that the particular subject which the writer has selected for discussion on this occasion has been but little reflected upon of late by surgeons generally; either from not considering it of sufficient importance, or from not having had their attention especially and properly directed to it. It is a subject, however, in the estimation of the writer, which should not be altogether neglected, but is well worthy of further consideration.

Before entering fully upon the main features of the subject, the writer will endeavor to give the etymology, signification, and correct application of the word *fistula*, the importance of which will scarcely be called in question, especially when it is considered that there is perhaps no technical term in medicine more misapplied or indiscriminately used. A few brief remarks will also be made upon the importance and propriety of employing precise definitions and correct technical terms in medicine.

As language is the great medium through which we gain access to science and to art, we should therefore endeavor to make ourselves well acquainted and familiar with this medium. In the science and the art of medicine we too often have to deplore the great want of clear and precise definitions of diseases, as well as to lament the lack of attention to the nomenclature or vocabulary of technical terms. No technical terms in medicine, or in any science, should be used, except those which are truly appropriate in meaning, purely technical in character, and strictly uniform in application; all except such are liable to occasion false ideas, and consequently lead to erroneous practice; indeed, we all know there can be no accurate thinking, and of course no correct reasoning, without a precise and correct use of terms. The sentiments expressive of delinquency in this respect are not peculiar to the writer, as hundreds have long since expressed them and many more have felt them.

"Every science and every art," says an eminent author, "has its particular nomenclature or vocabulary of technical terms. These terms are generally derived from the Greek or Latin, because these languages, being now dead, and their words consequently not liable to change, are considered for this reason a better source than any other for words of this description. The convenience and utility of such terms are universally acknowledged; and they are preferred to other equivalent terms in common use in the language, because having no other meaning nor use that what belongs to them as technical terms, whenever they are used every person who understands the science knows precisely what is meant. The fact of their being of foreign origin, of fixed and determinate signification, and not employed in the language to denote anything else, is not only no objection to their use, but is in reality a decided advantage."

It is strange that some medical men, both in our own and in foreign countries, seem suddenly to have taken such an aversion to the dead languages, and to everything foreign, except their own particular mother tongue, and appear so much afraid that it is contaminated by such connection, that they are actually urging the abandonment of all Greek and Latin technical terms in medicine, and substituting in their stead either English, French, or German technical terms. But it is sincerely to be hoped, however, that the science of medicine in this respect will be spared for a long time to come from the manipulations of enthusiastic but, in the opinion of the writer, mistaken

innovators; for the radical change proposed would be well calculated to disturb, to distract, and to perplex, for a generation or two, professors, students, and practitioners. Indeed, it is by sudden and perpetual changes in medicine that the science and the art are constantly kept in a state of fluctuation and uncertainty, if not absolutely retarded. But the writer, by this language, does not wish it to be understood that innovation in medicine generally should be dreaded; far from it; for servile imitation is the grave of genius and the burial-ground of all improvement in medicine, which is both an experimental and a progressive art. The fear of innovation, therefore, should by no means arrest the march of real advancement, for it is the vehicle upon which medicine is carried from one degree of perfection to another; and although its speed may sometimes be retarded, as it often has been before, yet its extent can only be circumscribed by the acme of excellence in all human productions. The direction of medicine at the present day is onward and upward, and there is therefore still work for the medical men of the present and the future to do, and from present indications we conclude correctly that they will not fold their arms until they can say it is finished.

Description and Definition.—The Latin word *fistula* signifies a reed, hence a pipe or a hollow cylinder. The ancient Latins called a catheter *fistula*, and a clyster-pipe the same. Some authors, we think erroneously, however, derive the word *fistula*, from the Latin *fundo*, to pour out. The Latin term *fistula*, however, finds its true prototype in the Greek word σύριγξ, a pipe or flute, being derived from the verb συριξειν, to whistle. The Greeks, as shown, used the word *syrinx* to denote the same disease which the Latins call fistula. The ancient flute was a hollow cylinder, open at both ends; the modern flute is closed at the upper end. The name fistula, then, is very evidently taken from the similitude which the narrow cavity of a fistulous tube or track has to that of a reed, pipe, or flute. This word, however, has to a great extent become disqualified for technical use by its numerous untechnical applications.

The term fistula in pathology or surgery, then, simply denotes a narrow tube or conduit of variable length, leading to a free surface, from an abscess, cavity, or a normal canal, the seat of some local inflammation or irritation; and having a small orifice through which fluids or extraneous matters are discharged, greatly disproportionate to the extent of the morbid affection.

Paulus Ægineta says: "A fistula is a callus sinus, generally formed from an abscess, and derives its name from the pipes of reeds (fistulæ)." [1]

Celsus defines a fistula as follows: "Id nomen est ulceri alto angusto calloso." [2] Of all the ancients, Celsus has given the most minute, correct, and extensive description of fistulæ. Indeed, there is nothing extant on the subject any more appropriate, even at the present day. The word fistula was generally defined by the early writers thus: "Sinus angustus callosus profundus; acri sanie diffluens." In modern times, Dionis defines it: "Un ulcère profond et caverneux dont l'entrée est étroite et le fond plus large; avec issue d'un pus acre et virulent; et presque toujours accompagné de callosités." [3]

Mr. Pott describes a fistula as follows: "The smallness of the orifice of the accidental canal; the hardness of its edges; its being found to be the outlet from a deep cavity; its discharging a thin, gleety, discolored kind of matter, attended with great induration of the surrounding parts; are all of them circumstances raising and confirming the idea of a true fistula." [4]

It is observed that the Latin terms, fistula and sinus, are generally employed by many authors as synonymous, especially by the ancient writers; there is evidently, however, a difference, but in what it exactly consists is not so easily determined, in consequence of the numerous and various definitions and applications of it. A fistulous passage is narrow, or of small calibre, and may have an internal as well as an external orifice; whereas a sinus is much wider, and has but one orifice, which is external. Medical lexicographers, however, usually define it a gulf, a cavity, or depression; or a long, hollow passage, leading from an abscess, diseased bone, etc. But almost the same may be predicated of fistulous canals.

It may also be remarked here that the ancients, as well as some of the moderns, in their definitions of fistula, include callosity as an essential element; but this is an error, as there are many cases of fistulæ unaccompanied by callus, as the writer has often observed, as well as have others. In the early stage there is scarcely ever any induration and thickening of the tissues in and around the fistulous track; but in process of time these are brought about by frequent and long-continued irritating and inflammatory changes. This callosity in former times was considered to be of a scirrhous or cancerous nature, and subjected to very severe and injurious treatment. It is said by some authors that this callous condition of fistulæ was produced by the ancient treatment of the disease, which, they say, consisted of the introduction into the fistulous passages of highly irritating substances, on tents or pledgets of lint, which constantly so excited and irritated the fistulæ as tended strongly to produce this callous state of the parts. But neither such treatment by the ancients nor by the moderns is the cause of this callosity. Such treatment, however, is much more applicable to some of the moderns than to that of the ancients, who understood the nature and treatment of fistulæ as well as the moderns.

It is well known that more or less induration supervenes to inflammation, especially of the cellular tissue; and it is particularly observed in the callosities which follow the course of fistulæ in the anal region, which abounds in such tissue. The contraction and hardness in fistulous tracks take place very gradually, some considerable time after the acute inflammation, swelling, redness, heat, and pain in the cellular membrane are entirely dissipated. These callosities, however, do not usually produce any other bad effect than that perhaps of retarding the cure of such fistulæ.

The term fistula is often misapplied, or is used in an indefinite or vague sense, thus giving a very inadequate idea of the nature of the affection. Instead of simply denoting a pipe like or tubular sore, which is all that it does; or merely signifying the pipe, drain, or medium of conveying a fluid or extraneous matter to the surface, it is frequently applied to simple abscesses or to suppurating excavations, especially to all such in the vicinity of the anus. This departure, however, from its strict signification is doubtless caused in this instance by the fact that an abscess in the anal region most always precedes anal fistula, and that it is the initiative in the production of fistula. Abscess and fistula in the anal region stand in the relation of cause and effect; hence this complication is usually confounded and the term fistula made to include too much. This distinction, however, is important, and must not be lost sight of; for the indications in the treatment of simple abscesses and fistulous tracks are essentially different. An anal abscess may or may not result in fistula, but it is liable, from various causes, sooner or later, to become fistulous, and when it does the following is the process: After the pus in the first instance is evacuated, its parietes do not approximate, and its cavity is not spontaneously obliterated, and it establishes in its walls one or more pipes or canals which are fistulæ, and through which it discharges its secretions. An anal abscess may also become fistulous by its cavity gradually diminishing until it becomes itself a hollow cylinder or pipe. It is in this manner, then, that in time, a definite

[1] Libri Septem, Græcè et Latinè, lib. iv., cap. 49. Folio. Basileæ, 1532.
[2] De Medicini, lib. v., cap. 28, sec. 12.
[3] Cours d'Opérations de Chirurgie, Démontrées au Jardin du Roi. Edit. par. M. De La Faye, tome i., p. 405. 8vo. Paris, 1782.
[4] The Chirurgical Works of Percivall Pott, Edited by Sir James Earle, vol. ii., p. 205. 8vo. Philadelphia, 1819.

organization is finally established constituting a fistula. An anal abscess may, however, under favorable circumstances, terminate without becoming fistulous. If the artificial or the spontaneous opening of the abscess is made sufficiently large to completely empty it at once, the extent of its cavity diminishes rapidly, and its parietes approximate, and we know, as in a wound, how they are simply agglutinated by means of the albumin and the fibrin, the blastema or blood plasma of the liquor sanguinis, which process either removes, or prevents the action of the peculiar accidental tissue which lines abscesses and fistulous passages, and which will be described hereafter. It is therefore highly important, if not contraindicated, than an anal abscess should be opened by a free incision just as soon as the slightest fluctuation can be detected in it.

An abscess, consequently, should not be called a fistula, until it has in time acquired the characteristics plainly specified in the term.

The word fistula is also applied to many other affections which have no claim whatever to the appellation; for instance, it is indiscriminately applied to the diseases of the lachrymal organs as well as to the following lesions: vesico-vaginal, urethro vaginal, recto-vaginal, recto-vesical fistulæ, etc. But where is the resemblance in them to the thing represented or signified by the term? These lesions or diseases are not fistulæ, but mere openings, breaches, or perforations; and their junction or communication is not effected by a pipe, tube, or canal. The great impropriety of denominating these affections fistulæ was demonstrated some years ago by MM. Jobert (de Lamballe) and Vidal (de Cassis).

Mr. Bryant, Surgeon to Guy's Hospital, London, has, however, very cleverly disposed at once of the incongruity of the application of the term fistula to the lesions or affections just mentioned, as well as to all others of a similar nature, by making an entirely new definition of fistula, strictly conformable to the exigencies of the case. He says, "A fistula is an unnatural communication between a normal cavity or canal, and the outside of the body, or second cavity or canal." [1]

It will be perceived, however, that the etymology and the signification of the word fistula are entirely ignored in Mr. Bryant's definition.

But it seems useless to expend any more words on the abuse of the term fistula, for there is no certainty that they will be heeded, inasmuch as the subject has been well and widely known to the profession for so many years; and especially, as some tell us, that the nomenclature of the disease is now so well understood and established that it is useless even to suggest any change in the application of the term. According to this notion, however, a word without any meaning whatever will answer just as well to denote a disease as a significant one, doubtless upon the principle that a rose is a rose and smells just as sweetly under any other name.

Formation, Structure, and Pathology.—The writer will now enter into a general consideration of the seat, development, organization, and properties of fistulæ.

It is known that fistulous canals may be developed in the different tissues of the body, but they are most frequently observed in the cellular membrane, and as this membrane is thickly dispersed about the margin of the anus and in the perineum, it is in these localities, therefore, that abscesses and fistulæ are most commonly developed. Indeed, the cellular tissue favors the formation and extension of these fistulous tracks, in consequence, doubtless, of the ready passage it affords to fluid matters, which often make their way rapidly in different directions in it with but little hinderance, it being the softest and most yielding of all the tissues of the body.

These fistulous passages, when they develop in the ano-perineal region, are generally single, but they often ramify at their extremities, usually communicating with each other, with one or more external openings, and converging generally to but one internal rectal aperture. Their direction is most frequently tortuous, yet they are sometimes straight, and they often present numerous contractions and dilatations in their course, and occasionally become insulated.

In the exploration of these often crooked passages, the probe, if straight and inflexible, cannot be made to follow the obliquities of them. The probe must be so flexible as to be capable of being bent or curved to such an extent, previous to its introduction, as to readily follow the track of the passage, and thus made, if possible to discover the exact extent, the true bottom, or the internal opening if any exists. These abnormal canals possess various degrees of sensibility; the introduction of the probe into them is sometimes productive of severe pain, while at other times the presence of the probe is readily tolerated.

The discharge from and through fistulous passages may present characteristics of pus, gleet, sero purulent, sanguineo-serous, or mucous matter; but the discharge varies like the cause; sometimes it is white and consistent, often it is thin and flaky, at other times pure, and again it is mixed with the product of some natural secretion, according to the location of the fistula, the general health of the patient, the length of time the affection has subsisted, etc.

M. Dupuytren treats the subject of fistulous passages in a very able manner. After giving their formation and structure, he says: "These accidental passages are formed at the expense of all tissues in their immediate vicinity, taking the elements of their organization from them—hence the fibrous, nervous, mucous, and osseous tissues may all enter into their composition, according to the locality of the fistula. Mucous tissue, osseous substance, nerves, veins, and cellular tissue, have been found in their organization, according to the parts in which they originated and through which they passed." [1]

The Adventitious Tissue.—The peculiar accidental tissue, previously alluded to, which lines the internal surface of these abnormal passages, bears some analogy, by its organization, properties, and functions, to the natural mucous membrane. Indeed, this peculiar tissue, which is neither a pseudo-membrane nor a mucous membrane, commences to be organized in all abscesses at a certain stage just before they spontaneously open, or are lanced; and it completely circumscribes the purulent collection in them; and should any of such abscesses subsequently result in fistulous passages, these will be found lined with the same kind of tissue.

Mr. John Hunter was the first to call attention to the existence of a peculiar tissue lining fistulous passages, apparently like mucous membrane. He says, "The internal surface of fistulæ has an appearance similar to that of a secretory membrane, and may be compared to the urethra." And again he says, "I believe that a deep wound, such as that from a gunshot, on proceeding to suppuration, and forming a fistulous canal, becomes in some degree analogous to an excretory canal, having the power of producing peristaltic motions from the bottom to the external opening." [2]

M. Dupuytren especially calls attention to the apparently mucous membrane which lines the inner surface of fistulous canals. He considered this peculiar tissue to be a real mucous membrane, similar to the normal mucous tissue, and differing from it only by the absence of follicles and a layer of epidermis.

M. Breschet has also produced an able article upon this subject, entitled, "General Reflections on Fistulæ and on the Formation of an Accidental Membrane in their Course." Of this membrane he remarks, "The organic elements of the adventitious membrane of fistulæ have the greatest analogy with those of the mucous membranes. This membrane is separated from the surround-

[1] The Practice of Surgery, p. 420. Imp. 8vo. Philadelphia, 1873.

[1] Leçons Orales de Clinique Chirurgicale, tome ii. 8vo. Paris, 1834.

[2] A Treatise on the Blood, Inflammation, and Gun hot Wounds. 4to. London, 1794.

ing parts by a greater or less extent of cellular tissue which may be termed submucous, and it contains a portion of that structure in its composition, as may be demonstrated by maceration."[1]

No regularly developed anal fistula is destitute of this mucous-like tissue, lining its internal surface, and it is indeed essential to the formation of the disease; and in simple cases it is often the only organic change existing. According to MM. Dupuytren and Breschet, this tissue, in proportion as it acquires age undergoes considerable changes, becoming more and more like mucous membrane, and at a late period of its existence it will be found red, and its redness reveals many small blood-vessels which terminate on its surface by exhalants, the existence of which is evident by the secretion of fluids; and also, like the mucous membrane, it will be found soft and villous, and if examined with a glass the villosities may be distinguished.[2]

The few cases, however, in which the writer himself carefully examined this tissue, which were all, however, of recent origin, he found it much thinner, more delicate, and of a paler red color than the normal mucous membrane, neither was it as soft, velvety, and firm; and when examined with the glass he found its surface slightly tomentous and its texture filamentous, and the blood-vessels and villi were quite easily discernible. This tissue is evidently a low formation of the cellular membrane, and is of such a feeble character as to be easily removed by rubbing, scraping, or by the mildest escharotics, as the writer has often demonstrated.

Although this peculiar tissue possesses several strong traits of resemblance to the natural mucous membrane, yet the difference between them is so remarkable that their perfect identity can by no means be established or admitted. It may be said, however, that it is more analogous, perhaps, to the mucous membrane than to any other species of structure. M. Dupuytren considers this tissue to be a real mucous membrane, but admits that it is destitute of follicles and a layer of epidermis. This, however, is no inconsiderable difference, as it lacks the cuticle to protect it, and those important glandular bodies, the mucous follicles, which are dispersed throughout the mucous membranes, and secrete a viscous fluid for the lubrication of its surface. These, however, are not the only differences of organization between the accidental tissue and the natural mucous membrane. The former is known sometimes to be spontaneously effaced, and the fistulous passage it lines is obliterated; or it may be easily displaced artificially with the same result. This, under similar circumstances, however, cannot be said of the latter, inasmuch as such an occurrence is rarely or never observed. For instance, the mucous membrane of the intestinal canal, below an artificial anus, either in the groin or in the loin, remains normal and continues to secrete mucus, and the canal itself, too, remains pervious, although all the fecal matters are diverted from it, and no spontaneous obliteration ever occurs.

This peculiar tissue or enclosing cyst of abscesses, and which also lines fistulæ, has been called pseudo-membrane by some, but it is evidently not so, as can be easily demonstrated. A false membrane is known to be an exudation of a fibrinous character, chiefly from the capillaries of inflamed mucous membranes, and is deposited in layers on their surface, as in croup, diphtheria, etc., and is analogous to the exudation on serous membranes. Indeed this accidental tissue is neither a false membrane nor a false or a true mucous membrane, but it is *sui generis*. Lobstein has denominated it "tissu pyogenique."[3] He believed that the function of this tissue was really to generate or secrete pus, thus agreeing with Mr. Hunter, who, as has been shown, was the first to call attention to this tissue, and to suggest the idea that pus was its true secretion. But the writer has previously shown, however, that in abscesses this same kind of tissue which lines and completely encircles them, is organized subsequently to the generation or secretion of the pus; consequently it could not have had anything whatever to do with the process of pus generation. Indeed it would be much more plausible to suppose that this tissue was designed as a wall or barrier thrown around the abscess to confine it and its contents within bounds, and thus to prevent their spreading into the loose cellular tissue of the anal region, than to believe that its function was merely to develop or secrete pus. It, however, is not more of a pus-secreting tissue than are the mucous membranes themselves, which is certainly not their function. Yet, under inflammation, an ichorous fluid from their capillaries is frequently thrown out, which in reality, sooner or later, becomes muco-purulent or actual pus, without the least appearance of a solution of continuity; consequently can both the accidental and the mucous tissues be considered truly pyogenic?

It is also said by some authors that this accidental tissue is not only a pus-secreting but an absorbing agent also; yet it would seem that the instances must be few indeed in which pus would find its way into the circulation, from abscesses and fistulæ, through the medium alone of this tissue.

But after all that has been said and observed of this peculiar tissue, it must be admitted that there is much yet to be learned of a definite and positive character in relation to it; and it is only by means of new and further researches that the true nature, functions, and characteristics of it can be precisely determined.

Importance of Early Treatment.—It is not only important to prevent an anal abscess from becoming fistulous, but it is equally important, after fistulous passages have formed, to treat them radically at once, before their parietes and their internal lining tissue become perfectly organized by time, and thus become involved in serious pathological changes. Conservative surgery may especially be of essential service in the early treatment of simple and superficial cases of anal and rectal fistulæ, in asmuch as all such cases at an early period may be successfully treated without division or excision of the morbid parts.

"An opinion," says the late and able Dr. Gibson, "generally prevails that every fistula in ano requires an operation. There cannot be a greater mistake. So far from it almost every sinus, I am inclined to think, in a patient tolerably healthy might be healed if attended to in the commencement and judiciously managed. Nothing will contribute more to this end than absolute rest, simple dressings, moderate diet, and mild laxatives. I have known a fistula, protracted and kept open for months while the patient walked about, healed in a week by perfect quietude and the horizontal position."[1]

M. Breschet says: "By a judicious use of proper measures we may almost always spare the fistulous patient an operation, which, although generally exempt from serious danger, is nevertheless productive of more or less severe suffering, and often gives rise to very unpleasant consequences."[2]

The writer would here remark, however, that it must be distinctly understood that in all complicated cases of anal and rectal fistulæ, in which a large amount of the soft parts in the anal region, including sometimes the whole of one or both buttocks, are involved, attended with deeply burrowing sinuses and more or less external openings, no confidence whatever can be placed in any other treatment than in that which contemplates the complete division of all the passages, both external and internal, by either the ligature or the knife. When a deep fistulous track is divided by the knife, to aid in insuring success it might be well to scrape off or excise the accidental tissue and close the wound by suture. By the use

[1] Journal Universel des Sciences Médicales de Paris. Juin, 1818.
[2] Op. cit.
[3] Traité d'Anatomie Pathologique. Folio Paris. 1829

[1] Institutes and Practice of Surgery. vol. ii., p. 152. Imp. 8vo. Philadelphia, 1850.
[2] Op. cit.

of the ligature, however, this proceeding is entirely obviated, as it completely destroys the accidental tissue and the callosity as it gradually divides the walls of the morbid track. These two methods, the ligature and the knife, have been thoroughly tested by ages, coming down to us as they do from ancient times. But it should be remembered that in the treatment of either the simple or the complicated form of fistulæ, much indeed depends upon the skill, the judgment, the experience, and the prudence of the surgeon to direct the application of the various and numerous remedial measures according to the exigencies of each individual case.

Indications in the Treatment of Simple Fistulæ.—The chief indication in the treatment of simple fistulæ, in patients otherwise healthy, is to destroy the accidental tissue which lines their internal surface, which, when accomplished, modifies the condition of their parietes, and, together with enlarging the orifices of the passages, and complete drainage, decidedly favors granulation, cicatrization, obliteration, and cure. The chief indication may be effected by means of various escharotics, some in the form of fluids, as injections, and others in the solid form. Some of the fluids which have been successfully used in some such cases, by the writer as well as by others, are the strong tincture of iodine; a strong solution of the nitrate of silver, say one drachm of the salt to one ounce of distilled water, and the following:

℞. Acidi carbolici..... gr. xxv.
Glycerine..... ʒ ij.
Aquæ destillat..... ʒ iv.
M.

A number of other escharotic solutions, suitable for injections in such cases, could here be given, for such abound, and are known, and will suggest themselves to practitioners generally, hence it is unnecessary to name them.

The writer has successfully treated quite a number of cases of simple and superficial anal and rectal fistulæ, in which there existed one or more straight or slightly curved fistulous tracks, by means of probes of silver or of copper, eight inches long, and of different sizes. The silver probe may be coated with the nitrate of silver, by dipping it several times in the fused salt, and introducing it the whole length of the track; or the copper probe may be coated with the nitrate of copper by dipping it in nitric acid, and inserted like the former. A choice can thus be made between the nitrate of silver and the nitrate of copper. The writer has had the most success with the latter. The former was the suggestion of Sir Benjamin C. Brodie, and the latter was that of Mr. Evans, of London. When a silver and a copper probe are dipped in nitric acid, and introduced together into a fistulous passage, the caustic effect is greatly increased, and if suffered to remain in too long would destroy the tissues with which they were in contact. This is the effect of the galvanic action set up by the contact of the copper and silver probes with the acid acting upon them.

Spontaneous or Natural Cure of Fistulæ.—The natural or spontaneous cures of anal and rectal fistulæ are not of frequent occurrence, yet occasionally isolated cases do present themselves in which a fistulous passage or passages will close and become obliterated without any surgical interference. Cases of this kind have long since been reported by such eminent men as Pott, Ribes, and Velpeau, and which emphatically demonstrate the fact that nature sometimes spontaneously effects cures of fistulous canals. This subject has, perhaps, not been sufficiently reflected upon by surgeons in general, for numerous circumstances point to the fact that nature itself attempts to cure fistulæ, and they who ignore nature's efforts in this respect lose some valuable points in their indications of cure of fistulæ by any method. In confirmation of this fact, the able Mr. Pott, in speaking of the tendency of fistulous passages to spontaneous cure, says: "They may not always become perfectly closed and heal; but the aim and conduct of nature is not therefore the less evident, nor the hint which art ought to borrow from her the less palpable."[1]

The following is, perhaps, the *modus operandi*, then, in which a spontaneous or natural cure of fistulous canals may take place: The composition of such canals is contractile, like all other tissues of the body; and just as soon as they, from some new action in them, begin gradually to cease giving exit to their accustomed discharge, or that which caused them, their cavities in the same ratio begin consequently to contract and become capillary, union and adhesion of their parietes take place, and finally they are changed into a fibro-cellular mass, resembling a cord, which may sooner or later altogether disappear.

A case of this very kind came under the observation of the writer at New Orleans, La., in March, 1847. Mr. P——, of Columbia, S. C., on a visit to New Orleans, brought with him his body-servant, George, a rather delicate mulatto about twenty-five years of age, who, soon after his arrival, contracted a severe cold, which rapidly terminated in pneumonia and death. Two years previously this man had a complete fistula in ano, which in less than a year closed and healed, without any medical or surgical treatment whatever. An autopsy was permitted the writer, who could distinctly feel the cord-like cicatrix, the remains of the fistulous track, and which he completely removed by dissection. It measured three and a half inches long, and its parietes were firmly united and had precisely the appearance and the feel of a cord. Since then the writer has observed four similar cases. Mr. Allingham reports twelve cases of spontaneous cures of anal and rectal fistulæ.[2]

"The fear of Pope Innocent was so great," says Saint Augustin ("Cité de Dieu"), "when they announced to him that it was necessary for him to be operated upon a second time for fistula in ano, that the surgeons on the day after found only a firm and solid cicatrix in the place of the sinuses and of the small openings which were seen the evening before."[3]

A knowledge, therefore, of the phenomena relative to the spontaneous cure of fistulæ is of considerable importance to the successful treatment of their various kinds, by whatever method employed, and should be an object of interest and consideration in the indications of their treatment and cure.

7 West Forty-Fifth Street.

PRACTICAL NOTES ON THE PROPHYLAXIS AND TREATMENT OF DIPHTHERIA.

By R. C. VAN WYCK, M.D.,

Poughkeepsie, N. Y.

The excellent article of Dr. J. H. Peck, in the Medical Record of January 31st, leads me also to add a few remarks and suggestions as to a plan that I have rigorously followed for the past two years, and which I have found to be eminently successful.

During the past two years I have had considerable experience in the treatment of diphtheria, and out of one hundred cases occurring in a daily routine of practice I have only to record one death. They were by no means mild cases, some of them being very malignant.

As regards prophylaxis, where isolation of patient can or cannot be practical, I direct all persons exposed to the contagion to use, either by spray, brush, or gargle, four times daily, a solution of peroxide of hydrogen, twenty-five per cent. This solution is odorless, much pleasanter, and as effectual, than a one per cent. solution of creolin. I have used, with excellent results, the vapor of cresoline once in twenty-four hours in the sleeping-

[1] Op. cit., p. 218.
[2] Fistula, Hæmorrhoids, etc., p. 16, 8vo. London, 1871.
[3] Mott's Velpeau, vol. i., p. 12. Imp. 8vo. New York, 1846.

room and through the house, by the aid of Page's vaporizer. I am directly opposed to such strong solutions of bichloride as 1 to 50 or 1 to 100. Such solutions, in my opinion, are unnecessarily irritating and caustic, and increase the inflammation. It is not always easy to apply them to the affected part, especially in rebellious children, and it seems to me such solutions should be applied only by the physician himself. For my part I have used the solution of bichloride 1 to 2,000, and painted it over the diseased surface with a camel's-hair brush used for the purpose. In one case of nasal diphtheria in a child four years of age, which seemed an almost hopeless case, the child had been sick three days when I saw it. It was a typical case of nasal diphtheria. Both nostrils were completely plugged with diphtheritic membrane; tongue dry and red; high fever, rapid breathing, and marked drowsiness. After acting on the secretions by moderate doses of calomel and soda, the entire nasal passage was syringed out every three hours with a solution of bichloride 1 to 2,000, alternating every three hours with a spray of peroxide of hydrogen, 1 to 4, in water. Brandy—one-half ounce—was given every hour in milk, and iron and quinine as tonics.

This treatment was continued for six days without causing any mercurial poisoning. The child recovered completely without any diphtheritic paralysis. My experience has been to use only those solutions which are unirritating. I have used the peroxide of hydrogen pure on the patch, either with a brush or small swab, being careful to get it only on the diseased part, as it is very irritating and will dissolve the patch very quickly, and is, in my experience, preferable to a strong solution of bichloride—1 to 50 or 1 to 100. I believe in every case of diphtheria it is necessary to use constitutional treatment at first; it excites the secretions, prepares the stomach for its duties to absorb medicines and nourishment, and often without any other treatment aborts the disease.

In treating a case of diphtheria it has been my custom to divide it into different stages: 1st, stage of infection; 2d, stage of invasion; 3d, stage of deposition of false membranes; 4th, stage of separation of false membranes; 5th, stage of complications, viz., albuminuria, paralysis, etc. By carefully recognizing the different stages the practitioner, by using appropriate remedies, will carry his patient through safely. The stage of infection is stated by Oertel as from two to five days. I have seen it develop in twelve hours. This is the stage when prophylaxis should be thoroughly adopted. The stage of invasion, characterized by general malaise, high fever, often vomiting, and rapid respiration, and coated tongue. In this stage I administer calomel, in my experience better combined with bicarbonate of soda; from 3 to 5, or even 10 grains of calomel rubbed up with about 2 grains of soda, and administered dry on the tongue every four hours, until the characteristic effect of it is seen by green spinach stools. When this treatment is used early the membrane will be limited, as shown by its thick and everted edges. At this time I use a spray of peroxide of hydrogen, 1 to 3 of water, and when the patch is limited to a circular area I paint with full strength of peroxide of hydrogen, being careful not to get it on the healthy surface, as it is a decided irritant. After all of the membrane has been gotten off by the spray, the mouth is gargled with pure water and the diseased surface painted with bichloride solution, 1 to 2,000. The painting done only by the physician three times a day, or by an intelligent member of the family. The spray of peroxide of hydrogen is used every two hours.

The atomizer that I have in use is one made by Ed. Schirmer, 209 Centre Street, New York. It is made entirely of hard rubber, having a long shank with two points, an anterior or straight, and a posterior curved, having three openings, so that it throws a fan-shaped spray. By the use of this point the posterior nares can be thoroughly douched. The advantage of this point, also, is that it is broad and will not injure the uvula or the palatine folds. Internally I have found this tonic very pleasant and effective:

℞. Potass. chloratis..... gr. lxxij.
Acidi hydrochlori dil.,
Tr. ferri chloridi..... ...āā ʒ ijss.
Aquæ..... ʒ ij.
Glycerini, q.s. ad mist.. ..... ʒ iv.

M. Sig.: One teaspoonful every four hours in one-quarter glass of ice-cold water, used as a gargle and swallowed, alternating with quin. bisulph., gr. iv., every four hours, two hours apart.

Milk punch is given every hour, and as strong as the patient can bear. In my mind everything depends upon the thoroughness of the application. By the use of this atomizer, it being long, the spray can be directed upon the part (the patient or some member of the family depressing the tongue), and not wasted on the back of the tongue and hard palate. I have never used creolin, but if anyone has used peroxide of hydrogen in sufficient strength and a good article, he will not wish anything better. It is a very unstable compound, and should be made fresh every day. I use it in the form of gargle, twenty-five per cent. solution.

Creolin has some objections. Its odor is offensive. H. Martin[1] gives a résumé of its use in over two thousand puerperal cases in the Breslau Lying-in Hospital. In three women who were having uterine douches of creolin solution, symptoms of intoxication suddenly appeared, such as anxiety, nausea, and fainting. A fourth woman was very restless and felt weak for several days. In these cases the urine drawn with a catheter was dark brown and contained albumin. The color disappeared in a few days, but the albumin persisted for a short time. The disadvantages are that the emulsions are not transparent, and the preparations are not always reliable.[2]

CANCER OF THE CERVIX UTERI WITH COEXISTING PREGNANCY—VAGINAL HYSTERECTOMY—RECOVERY.

By WALLACE TAYLOR, M.D.,

OSAKA, JAPAN.

In the September (1890) number of the *American Journal of Obstetrics*, there was a report of a case of vaginal hysterectomy during the early stages of pregnancy, for cancer of the cervix, by Dr. Mary A. Smith. The writer stated that she had been enabled to find but eleven recorded cases, and that the case then reported was the only one reported in America. Situated as I am in Japan, and not having access to records of important surgical operations, I had not supposed such operations were so infrequent; yet further consideration on the number of hysterectomies yet performed, suggests that the cases of vaginal hysterectomy during the early stages of pregnancy must necessarily be small.

As such cases are important and so infrequent, it is desirable that all such operations be placed on record where they can be readily accessible to the medical profession. Hence the following case, which came under my charge, though reported in the *Sei-I-Kwai*, a journal of limited local circulation, is presented for insertion in your journal.

Mrs. I. O'Y——, aged forty-one. Her menses began at fourteen and continued regular. She was married at twenty-four, has had six children and two abortions. The youngest child is six years of age, and the last abortion occurred two years ago. Her periods have been growing less and less for some time past, and she has missed the last two. She had a marked pallor, but otherwise appeared in general good health. She thought, however, that she might have some womb trouble, as she had some peculiar pelvic sensations. Upon examination the uterus was found enlarged, the fundus being felt above the pubis.

[1] Centralblatt für Gynäkologie.
[2] Journal of the American Medical Association, January 31, 1891.

The cervix felt as hard as a board, and the whole uterus, when grasped bimanually, felt as inflexible as a stick. With the speculum the cervix was seen to be nodular, elongated, and of a crimson color, but the projecting nodules of a bluish hue, and presenting the general appearance of a malignant growth. There was no areola around the nipple, no nausea, nor purple hue of the vagina. There was, however, a suspicious relaxed condition of the tissues within the pelvis that was thought might indicate pregnancy. The enlarged uterus might be due to disease of the body of that organ as well as of the cervix, especially since all felt so hard and unyielding, and the absence of the menses might be due to climacteric changes. The sound was not used, as we did not wish to complicate the case with abortion should pregnancy exist. The woman did not consider herself pregnant, nor were we inclined to consider her so.

The case was fully laid before the patient and her husband that she might be pregnant, but if she was, the progress of the disease would most probably be such as to render her death inevitable at, or soon after, her confinement; that her only chance for prolonged life was to submit to a radical operation at once, which we advised her to do. After due deliberation they asked for an operation, which was performed June 4, 1890, at the Choslum Hospital, Osaka, Japan.

Some incidents of the operation and subsequent course of the case only will be mentioned. In separating the bladder from the uterus the cervix was not hugged so closely as it should have been, and suspecting we might be encroaching on the bladder, a No. 20 French sound within the bladder was passed through into the incision, thus showing a rent had accidentally been made into that organ. Going back a few lines, a deeper layer of tissue was seized with catch-forceps, dissected up and drawn over the rent, clamped, and the dissection continued. On passing the finger through the opening posterior to the cervix, a knuckle of intestine was felt, and a prepared sponge secured with a ligature was passed up to the fundus of the uterus, to prevent any further descent of the intestines. The broad ligament was lifted up so high the finger could not be passed over it, hence the finger was bored through a thin portion of the ligament on the left side, as high up as could be reached, and with the closed scissors an opening was made in front through the peritoneum on the point of the finger as a guide, and the separation of the bladder from the uterus completed. That portion of the broad ligament beneath the finger was secured by forcipressure, and severed. The uterus, thus partially liberated from its attachments, could now be brought down so the finger was passed over the broad ligament, and the remaining portion was secured by a ligature and completely severed. The catch forceps securing the spouting points in the vaginal incision, and also the one applied over the rent in the bladder, were now removed. Though the uterus was severed from its attachments on the left, it could not yet be brought down so the finger could be passed over the broad ligament on the right side. It was accordingly dealt with in essentially the same way as on the left, except that the ovary and the tube with its fimbriated extremity were included in the ligature. The fundus of the uterus was now brought down by seizing it with catch-forceps one above the other and drawing down, and the uterus removed. The ovary and tube with its fimbriated extremity on the left were now brought down, ligated, and cut away. Thus the ovary and tube were removed with the uterus on the right side, but removed separately on the left. The sponge was now brought down and the parts further cleansed by sponging. During this manipulation blood began to well up between the forceps and the ligature on the left side, and in trying to expose the parts a strong flow of blood obscured the field and flooded the pelvis. The parts were at once brought down as far as possible and catch-forceps applied one after the other at the seat of hemorrhage; after four or five had been applied the hemorrhage was completely checked. One or two catch-forceps were also applied on the right side to secure oozing points. The parts were again cleansed by sponging, and a prepared sponge secured by a ligature placed in the incision. The patient's toilet was then completed, being left with two broad ligament-compressing forceps and eight catch-forceps projecting from the vagina.

The operation lasted about an hour and a quarter; if the delay on account of hemorrhage had not occurred, the operation would have been completed and the patient's toilet made within three-quarters of an hour. The patient stood the operation well. The pulse was somewhat weakened at the close, but the shock was not marked. Four hours after the operation, about the time the patient came out from the influence of the anæsthetic, the pulse became weak and irregular, and the patient restless with jactitations. I was sent for in haste, but being absent, did not arrive for fully an hour. I expected to find the patient exsanguinated, but instead she was quietly dozing, with no increased pallor or discomfort. The interne had promptly given her two drachms of brandy hypodermically and a hot enema of a saline solution, beef peptonoids, and brandy thrown high up in the rectum, and this had revived and quieted her. The gauze dressing being damp and stained, was removed, and the sponge to make sure all was safe. There was no hemorrhage, so a loose iodoform gauze packing was placed within the vagina. A few drops of bloody urine were drawn off. The patient was ordered the above enema and brandy every two hours, if symptoms of collapse again were manifested or if the pulse again became bad, and the urine to be drawn every two hours. The patient had a very quiet night after this, with no annoying symptoms. Some two ounces of bloody urine were drawn off ten hours ofter the operation, none being obtained before. The urine ceased to have a bloody tinge twenty hours after the operation, and the bladder held from four to six ounces without leaking. The forceps were removed from time to time, the last sixty hours after the operation. The ligatures came away on the seventh and eighth day. The bowels were moved by a saline laxative on the third day. The highest temperature was 38.4° C. on the fourth day after the operation, and the patient declared on the fifth day that she was as well as before she entered the hospital. She made a rapid and uneventful recovery; she was sitting up on the twelfth day, and walking about on the fifteenth, and left the hospital on the twentieth day after the operation, in good condition; the pallor having passed away and in its place was the tint of health. She is a pedler by occupation, and soon after leaving the hospital she resumed her vocation. I met her a few days since with a large pack on her back, and in response to my inquiries she said she was perfectly well and strong.

The extirpated uterus was five inches long, three and three-quarters inches broad from cornu to cornu, and two thick (antero-posterior). The fundus was soft and flexible, the cervix long and rigid, with a hard nodule the size of an almond on the anterior lip, two smaller nodules on the posterior lip and sides, and a fourth at the inner os including over one-half of the circumference of the cervix at that point; and on incision the cervix was found more or less indurated and affected throughout. Before operation it was thought that the condition of the cervix was such that, if pregnancy existed, the growth of the tumor in the next six months, till childbirth, would be such as to prevent the dilatation of the cervix and necessitate a Cæsarean section, with the death of the mother then or shortly after, though probably with a living child; and the condition of the cervix after removal was found to justify this opinion. Macroscopically, the tumor (especially before removal) was quite a typical specimen of scirrhoid carcinoma of the uterus, and microscopically, the small cell-groups and coarse, dense stroma were quite distinct. The uterus contained a fœtus one and three-quarters inch long from vertex to breech, of about two months.

One noticeable feature in this case was the rapidity with which the pallor passed away and was replaced by the tint of health. For, though the patient was recovering from a severe operation, yet by the twelfth day after the operation the pallor had all passed off, and the patient had recovered the ordinary glow of good health. This was also observed in a patient operated on, some two months previous, for carcinoma of the uterus. This patient had suffered from severe hemorrhage, and the pallor was extreme. Yet by the twentieth day after the extirpation of the uterus all indications of pallor and anæmia had passed away and there was in their place the tint of health. The rapid disappearance of pallor and constitutional disturbance under otherwise unfavorable circumstances, goes to show that the removal of such a diseased organ confers a benefit on the general system, over and above being rid of a diseased mass that may not be offensive, or that the patient may not even be conscious of, and is an additional reason for early operation in these cases.

ASTASIA AND ABASIA, WITH THE PRESENTATION OF A CASE.[1]

By GR.EME M. HAMMOND, M.D.,

NEW YORK.

Astasia and abasia is characterized by the inability of the affected individual to either stand or walk, but without the accompaniment of motor paralysis. A few cases of this interesting disease were reported by Charcot, Jaccoud, and Weir Mitchell, between the years 1883 and 1885, but none of these observers attached any especial significance to these particular symptoms. It was not until Dr. Paul Blocq's paper[2] appeared in 1888, in which he collected eleven cases of the disease under consideration, all, in fact, that had been reported up to that time, that the neurologist's attention was attracted to what the author considers a distinct type of a neurosis which differs in many respects from all other diseases characterized by disturbances of motion.

The patient, whom I have the pleasure of presenting to you to-night, consulted me over a year ago for nervous prostration brought on probably by too close application to her duties. She is not of a nervous temperament, her family history is good, and she has not been the subject of any serious illness, excepting Pott's disease which came on during childhood. Up to the time of her attack of nervous prostration she had never experienced the slightest difficulty in locomotion; had always been energetic; was always capable of taking charge of the affairs of a large household, and in fact, does so now. She is not nervous, timid, or hysterical. A significant fact, however, is that at the time of her illness she suffered from aphonia, which varied from time to time, sometimes being quite complete, at other times the voice was almost natural. Her difficulty in standing and in walking was of course not discovered till she was able to leave her bed. While in bed she was able to move her limbs freely into any position she desired. On regaining her strength sufficiently to walk around it was observed that she invariably walked by first advancing the left leg and then drawing the right one up to it, precisely in the manner which you have just witnessed. This she attributed at first to weakness, but in reply to questioning stated that if she attempted to stand on the right leg or to advance the right leg first in walking, she would fall over. On my insisting that she should make the attempt to walk naturally she did so. Immediately after the right foot touched the ground her body revolved rapidly to the right, using the right heel as a pivot. After making a revolution and a half she sank to the floor. I then assisted by standing facing her and allowing her to grasp my arms while I grasped hers. In this position I could prevent the body from revolving. On her attempting to walk I could feel by the traction on my arms that there was a strong tendency on her part to turn toward the right. This I forcibly overcame. The body was then alternately flexed on the thighs and then straightened again as in the act of salaaming. This was done several times and with great rapidity. If I then held the body so that it could not bend forward the thigh would become flexed on the trunk so that the foot would be raised about five or six inches from the ground. The leg would remain in this rigid position in spite of the greatest mental effort the patient could make to arrest it. There has never been any disturbances of motility in the left leg.

The physical examination showed the limbs were symmetrical, the muscles were firm and well developed. There was no paralysis. The patient while seated or while lying down could move both legs normally; with the right leg, however, it could be seen that a greater mental effort was required to make the movements than with the left leg. The patellar tendon reflex was normal on both sides. There was no ankle-clonus. There was no anæsthesia, hyperæsthesia, or any other disorder of sensibility in any part of the body, with the exception of slight loss of the muscular sense in the right leg. The electrical reactions, both qualitative and quantitative, were normal. Vision, the field of vision, and the color sense were examined by Dr. Dana in my presence, and were found to be normal. The senses of hearing, touch, pain, and temperature were likewise tested without anything abnormal being discovered. Lately I have encouraged the patient to make attempts at crawling on the hands and knees. The effort is attended with the same results that follow the attempt at walking, that is, she turns to the right and falls over. There is some resistance to passive flexion and extension of the right leg. These symptoms, then, of difficulty in standing and of incoördination and ataxia of movements for the act of walking but not for other muscular acts, correspond accurately to that condition described by Blocq under the title of astasia and abasia. Besides the eleven cases collected by Blocq three others have been reported, one by Berthet;[1] one by Mathieu;[2] and one by J. Siglas and P. Sollier.[3] These, together with the one presented to you to-night, make a total of fifteen cases. An analysis of these cases shows that although all of them were unable to stand or to walk on the affected limbs yet the character of the incoördinate movements varied in different cases. Thus there were violent trembling of the legs, complete paralysis only on attempting to stand, revolving to the right or to the left, ataxia, flexions of the leg on the trunk accompanied by rigidity, and flexion and extension of the trunk on the thighs (the salaam). All of the muscular movements were made rapidly.

In three cases there was slight hyperæsthesia alone, in two cases there was a moderate degree of anæsthesia. In three other cases there was hyperæsthesia on one side and anæsthesia on the other. The other seven cases showed no disturbances of sensibility. Except in two cases there was a diminution in the muscular sense. In two cases the visual field was restricted. The knee jerk was abolished in one case, exaggerated in one case, and normal in thirteen cases. Pain in the back was a prominent feature in three cases, and in one case there was amnesia. It will be seen at a glance at these cases that there are no constant symptoms present except the inability to stand and the inability to walk, and that these two conditions may depend upon severe clonic spasms, equally severe tonic spasms, and paralysis. It is a fact worthy of note that not a single case has been reported in which the upper extremities were affected. Blocq is of the opinion that astasia and abasia is a condition pathologically similar to agraphia, that is, that an individual affected with astasia and abasia has simply forgotten how to make the muscular move-

[1] Read before the New York Neurological Society, November 4, 1890.

[2] Archiv de Neurologie, vol. xv., January, 1888.

[1] Lyon Méd., 1889, lxi. and lxii.

[2] Gaz. des Hôpitaux, August 20, 1890.

[3] Archiv de Neurol., No. 59 (September, 1890).

ments necessary for walking. I do not see anything in these cases to substantiate this view. People afflicted with the disease under consideration can make the motions of walking perfectly well if they are allowed to lie down, but it has never been claimed that an individual suffering from agraphia can write any better in one position than he can in another.

It is only when the feet are in contact with the ground that the symptoms of astasia and abasia are manifested. The patient, while sitting down or lying down, possesses the power of moving the limbs freely in all directions, but the moment the muscles of the lower limbs are called upon to adjust themselves for the proper balancing of the body or to perform the automatic actions necessary for walking, they seem to lose all knowledge of their proper order of action and of their proper amount of contraction, and hence some muscles become flaccid while others are thrown into a condition of tonic or clonic spasm. It seems to me, therefore, to depend upon a loss of the power of adjusting muscular contraction, so as to retain an exact equipoise or equilibrium. This is, of course, a defect in the muscular sense. There is no known tract in the spinal cord disease of which will be followed by these symptoms. Blocq attempts to make a distinct neurosis of this class of cases, and claims that a differential diagnosis between hysteria and astasia and abasia can readily be made. In the latter disease there are no hysterical stigmata, he claims; no constant paralysis or constant contractures. But these latter are by no means characteristic of all cases of hysteria, and when it is considered that every case of astasia or abasia has been accompanied by some other symptom or symptoms, such as, for example, hyperæsthesia, anæsthesia, aphonia, contraction of the visual field, and temporary color blindness, all of which frequently accompany hysteria, and since the disease under consideration is purely functional in character, no gross macroscopical or microscopical lesion ever having been discovered in it, it will not be difficult to believe that astasia and abasia is merely an uncommon type of an hysterical affection.

Progress of Medical Science.

Varicose Ulcer of the Œsophagus.—A case of death due to hemorrhage from a varicose ulcer of the œsophagus is reported by Dr. Viti. The patient, a waiter of alcoholic antecedents, had been brought to the hospital in a state of extreme anæmia, the result of an abundant hæmatemesis which had taken place some days before, and died two days after admission, after bringing up about two litres of red blood. He had long suffered from pain in the epigastrium and vomiting after taking food. At the autopsy there was found marked anæmia of all the internal organs, with many old adhesions, especially between the capsules of the spleen and liver and the diaphragmatic peritoneum; the liver was smooth and normal in size and consistence, the spleen slightly enlarged and thickened, the kidneys healthy. The stomach, which contained more than a litre of blood, showed no dilatation of vessels or ulceration. On slitting up the œsophagus the mucous lining was seen to be pale, but bulging underneath, at the lower part of the tube were found enlarged veins with swellings at irregular intervals. About five inches above the cardiac orifice a tiny ulcer was found communicating directly with an enlarged vein underneath, the mucous membrane for some little distance round being considerably inflamed. The aperture was closed by a small blood clot, and it was from this spot that the hemorrhage had taken place. No other lesion was found to account for the bleeding. The œsophagus was the seat of sacciform dilatation just above the cardiac orifice, and the patient had been in the habit of making himself vomit in order to relieve the feeling of weight from which he suffered after meals.—*La Riforma Medica.*

Brown Pigmentation from Arsenic.—Dr. Förster records the case of a boy, suffering from Graves's disease, who developed bronzing of the skin after a long course of arsenic. The patient was ten years old, and besides the usual symptoms of that disease, had obstinate diarrhœa and rises of temperature which lasted some time. He was put on arsenic about the middle of July, and toward the end of September it was noticed that the face was somewhat yellow, and the skin of the trunk, formerly pale, had become brownish. In the following February, the face was again almost normal, as also were the forearms and hands. The whole neck, however, showed a brownish coloration extending to the upper part of the chest; and immediately under the nipples began a darker pigmentation which appeared deepbrown on the abdomen, while the back was somewhat lighter. The buttocks and the upper parts of the thighs were likewise dark brown, but got paler farther down. The two sides were equally affected. Arsenic had been administered without interruption for a period of nearly eight months. It was now diminished, and two months later the bronzing had become less marked generally and more circumscribed. The patient showed, eighteen months later, a faint brownish pigmentation on the chest and abdomen. Dr. Wyss recently published two cases of brown pigmentation after a long course of arsenic for chorea, under the name of melanosis. In one, a boy twelve years of age, the coloring was visible after six weeks' use of Fowler's solution, and in the following weeks it became quite marked. It disappeared, only to recur on the resumption of the drug. In a second boy, two years younger, pigmentation was observed after arsenic, in five to six weeks.—*Berliner klinische Wochenschrift.*

Plugging the Abdominal Cavity.—Dr. Walcher employs a new method of dealing with severe hemorrhage from the peritoneal cavity after the removal of tumors. Dr. Walcher combines drainage by tubes and gauze. He has contrived very wide glass tubes, with a channel one inch in diameter and from six to nine inches long. The tube is passed into the deepest part of the bleeding cavity or down to the bottom of Douglas's pouch. Then a strip of iodoform gauze about two inches broad is passed carefully down the tube till a good large bunch of the gauze presses against the bleeding part. In one case Dr. Walcher thus inserted a piece larger than a man's fist. The free end of the strip of gauze is left in the tube, which is closed with a plug of wool. An assistant presses the tube against the bleeding spot while the operator closes the abdominal wound. The tube is placed in the lower third of the wound. The gauze plug may usually be removed on the second day. By aid of a mirror, attached to the surgeon's forehead, the surface whence the bleeding proceeded may be examined. Should hemorrhage recur when the first gauze plug is withdrawn, a second plug must be passed down the tube. The objection to this plugging is its liability to cause retention of flatus. Two cases out of seven in Dr. Walcher's experience suffered in this manner for about two days. The abdominal wound in all the cases healed well, the portion at the site of the tube closing as firmly as the remainder.—*Centralblatt für Gynækologie.*

Secretion of Milk in the New-born.—Dr. Variot has observed a mammary secretion in quite a number of children of both sexes, varying in age from three days to nine months. In two cases the secretion was obtained in sufficient amount to permit of a quantitative examination, which showed that it contained the characteristic ingredients of milk, butter, casein, and lactose. Out of thirty-two infants only six were found to present no mammary secretion, though in many of the remaining cases it was very slight indeed, and in some did not present a milky appearance. The terms the author uses show a wide variation in the character of the secretion.—*Gazette Médicale de Paris.*

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & Co., Nos. 56 and 58 Lafayette Place.

New York, February 28, 1891.

FUNERALS AND CONTAGIOUS DISEASES.

STRENUOUS and very commendable efforts are being made by the Pennsylvania State Board of Health to prevent the spread of contagious and infectious diseases. Funeral directors and ministers of the Gospel have been enlisted in the work, and doubtless much good will result. Their assistance has been asked for and obtained through two addresses which, in pamphlet form, have been scattered broadcast throughout the State. One is by Rev. S. Bridenbaugh, of Norristown, Pa., on "The Dang r Arising from Public Funerals of Those who have Died from Contagious and Infectious Diseases," read before the State Sanitary Convention at Norristown, May 10, 1890. The other is addressed to undertakers, and is by Josiah S. Pearce, on "Precautions to be Adopted by Funeral Directors to Prevent the Spread of Contagious and Infectious Diseases," having been read in June, 1888, before the Funeral Directors' Association of Pennsylvania, of which he is the president. The views contained in both papers are sound, and could advantageously be spread all over the country. A grave responsibility rests on the man who prepares for interment the remains of one who died of infectious or contagious disease. The corpse and the furniture of the room of death are centres of infection, and it remains for the funeral director to decide whether the infection shall be stamped out then and there, or whether it shall start out afresh and invade other homes. With proper knowledge, energy, and firmness, he can obtain the former result. Such a desirable end, however, can only be uniformly reached by a State system of registration and examination of funeral directors, with stringent laws to govern them. In default of such regulations, however, the undertaker should use his influence to induce the family of the deceased to dispense with a public funeral in cases of scarlet fever, diphtheria, membranous croup, small-pox, varioloid, typhus fever, yellow fever, or measles. Newspaper notices should always state such causes of death. Friends and relatives should be prevented viewing the remains while awaiting sepulture. The undertaker should, in such cases, avoid using chairs, palls, or other articles which may be used at other funerals. An ice box should never be used. The main cavities of the body should be injected with a strong antiseptic solution, wrapped in a sheet saturated with some antiseptic, placed in a sealed coffin, and interred as soon as possible after death. The corpse, if a child, should not be carried in a carriage. All carriages used should be thoroughly disinfected, and, lastly, the undertaker should take pains not to be himself the means of spreading the contagion. He should have clothing set apart for use in just such cases, and should afterward bathe in an antiseptic solution. In addition to these recommendations the pamphlet gives details as to embalmment, disinfection, disinterment, and transportation of bodies. The address to the clerical profession is in much the same spirit, and requests that ministers absolutely refuse to hold public services where the deceased died of any of the diseases mentioned above. It also suggests that the clergy residing in cities or boroughs use their influence to have passed suitable health laws prohibiting public funerals in cases of contagious disease. Such recommendations are perfectly useless in many cities, as proper health laws are already in vogue; but the deplorable fact remains that in probably the great majority of municipalities there are no regulations, or, at least, very deficient ones. As an illustration are cited cases in which the ice used to preserve bodies dead from contagious disease was emptied out on the public street, and the box used on the same day in an uninfected house without having been disinfected.

THE LUNACY COMMISSION'S WORK.

THE Commission in Lunacy of the State of New York has finished the second year of its existence. The details of its work during that period appear in another column of this number of the RECORD. Since the organization of the Commission great changes have taken place in the asylum system of the State, chief of which, of course, was the passage of the "State care act," whereby the poorhouse system of caring for so called "chronic" cases of insanity was abolished and all cases committed given proper treatment in State hospitals. The Commission has carried out the law as far as possible, but a large number of cases remain under county care owing to a lack of accommodation in the State hospitals. About $485,000 are wanted to build additional buildings. The Commission has unified the systems of keeping accounts and statistics, has regulated the service of legal papers on the insane, and has stopped the abuse of certain hospitals accommodating wealthy private patients at the expense of the room of the poorer class. Following its recommendations also, the Commission of Statutory Revision is revising the statutes of the State relative to property rights of the insane, the determination of official responsibility in the escape of patients, and also the matter of the discharge of patients from custody being vested solely in medical officers. The Commission has made a number of new recommendations to the Legislature, a few of which are mentioned in the abstract printed elsewhere. They are all good and deserve the support of the medical profession, especially the one to establish a pathological laboratory for the study of insanity. The appointment of the Commission in Lunacy gave rise to considerable unpleasantness. It clashed with the State Board of Charities, with county poorhouse superintendents, and with the boards of directors of the several institutions under their supervision. Nevertheless it has not only de-

monstrated its usefulness but almost all friction has disappeared, improvement is manifest in every phase of the work. If "by their fruits ye shall know them" the Commission deserves hearty commendation. It should be granted greater power by the legislature. Centralization of government is carried out in all the great departments of the State and is equally applicable to the management of the asylum system.

THE STERILIZATION OF PREDIGESTED MILK.

The attempts to secure a perfect substitute for human milk, are, it is admitted, still not completely successful. The various preparations and special methods now in vogue in most cases do very well, but bottle-fed babies in institutions continue to die. Of late, sterilization of the milk has been widely adopted; and this process commends itself as at least freeing the fluid from dangerous impurities. But it has been asserted that sterilized milk is made thereby somewhat less digestible. Certain experiments made on this point by Dr. H. D. Chapin, hardly bear this out. Some later experiments, however, made by Dr. E. M. Hiesland, and published by Dr. B. C. Hirst (*Medical News*; January 31, 1891), have led to the following results: Dr. Hiesland found that by sterilization, 1. The albumin is coagulated. 2. Casein less readily precipitated by rennet than in normal milk. Acid corrects this condition. 3. Fat is freed to a slight extent; fat not freed has a lessened tendency to coalesce. 4. Sugar undergoes some change, as shown by its lessened dextro-rotary power. The considerations suggested by a knowledge of the foregoing facts are:

I. The coagulation of milk albumin by sterilization may render the milk more difficult of digestion. II. Sterilization interferes with the coagulability of milk by rennet, and presumably, therefore, with its digestibility by the gastric juice. III. Free fat, as found in sterilized milk, is probably not readily assimilated in infant food. The fat not free, being enclosed in a less easily destructible envelope, is probably slow of digestion.

In order to prevent the alleged injurious changes caused by sterilization Dr. Hirst suggests that the milk be partially predigested. His directions are:

1. Have ten nursing-bottles prepared clean every morning.

2. Take cream five ounces, milk two and one-half ounces.

3. Put in skillet; add pancreatin powder; heat over alcohol flame for six minutes; stir and sip constantly; *do not overheat.*

4. Of this mixture, put in each bottle six drachms (to make two-ounce bottle). Use funnel.

5. Add to each bottle ten drachms sugar solution.

6. Stopper the mouth of each bottle with dry, baked cotton, and sterilize for twenty minutes.

7. Set aside to cool.

8. Before use, put bottle in warming-cup; apply nipple immediately before giving it to infant.

Make sugar solution by dissolving one ounce sugar of milk (one powder) in a pint of warm water.

The pancreatin powder consists of two and one-half grains of pancreatin and five grains of bicarbonate of soda.

Partially predigested sterilized milk is thus put forth as the latest complete baby-food and perfect infant-raiser.

A TUBERCULOUS ENVIRONMENT.

If one can trust the statements of veterinarians and official cattle inspectors, the great cities of the East are surrounded by an army of tuberculous milch-cows, which constantly menace the health of the people. The facts asserted are that, in Massachusetts, particularly in the eastern part, ten to twenty-five per cent. at least of cattle are tuberculous.

Dr. Bailey, State Veterinarian of Maine, gives the following estimates of experts:

"Dr. Alford H. Rose, United States Inspector of Cattle at Littleton, Mass., says that Suffolk and Middlesex Counties are literally overrun with the disease, and Dr. William A. Rose, United States Inspector at Washington, D. C., told me, after examining more than two hundred herds in Massachusetts, that he had not been into a single herd in which he could not identify more than twenty-five per cent. of tuberculous cattle. Dr. Madison Bunker, of Newton, Mass., Drs. Hitchings, Penniman, Colburn, and Winchester, all give their estimate as from twenty-five to fifty per cent., and Dr. Winchester writes that he does not believe there is a sound herd of cattle within twenty miles of the city of Lawrence, where he lives."

There is no particular reason for supposing that the condition of affairs is any better in the neighborhood of this city or Philadelphia. We must express some doubts, however, as to the correctness of the statements made above by the veterinarians. There is a polemical and a business element which may produce some bias. Apart from this, we doubt the ability of the veterinarian to recognize tuberculosis in cattle with the certainty which he seems to feel. The human physician does not pretend to diagnosticate phthisis for purposes of careful record without first making a bacteriological examination of the sputum. And we should naturally refuse to accept the statement of a veterinarian who, without such tests, announced that there "was not a healthy herd of cattle within twenty-five miles of the city."

There is evidence enough of the danger of bovine tuberculosis to make it imperative that sanitary authorities institute a careful examination of herds furnishing milk to cities. But the matter is not helped by sensational announcements to the effect that half of our milk-supply is diseased.

People are getting afraid of drinking water, and if there is a panic over the milk, there will be nothing left to drink but broths and alcohol.

Prevalence of the Grip in Japan.—The influenza is still as prevalent as ever in Japan. It would be difficult to find a foreign household which has escaped, while in Japanese circles it is said to be as bad. The Emperor and Empress are reported to be among the sufferers. Reported cases of influenza among the Japanese in Yokohama alone amount to fifty thousand. The number of cases not reported is said to be very large.

News of the Week.

Dr. Richard Quain has been made a baronet.

The Name "Tuberculin" is not a new one. A homœopathic remedy which is a dilution of phthisical sputum has been known as tuberculinum.

A New Neurological Journal.—A new German journal, specially devoted to neurology, is about to be published, under the editorship of Professors Erb, Lichtheim, Schultze, and Strümpell. The new periodical will be entitled *Zeitschrift für Nervenheilkunde*.

Dr. Marius Duvall, Medical Director of the United States Navy, retired, died suddenly last week at his home in Baltimore. Dr. Duvall was nearly seventy-three years of age.

Honor to the Memory of the Late Dr. Mathews Duncan.—The annual meeting of the Obstetrical Society of London, on February 4th, was remarkable in several respects. Eighty-five persons were present, including eleven visitors. When the President, Dr. Galabin, began an obituary notice of the late Dr. Mathews Duncan, in the course of his annual address, the Society rose, and remained standing till the speaker had concluded his observations on the life, work, and character of the great obstetrician.

A New Scientific Society.—A new society, entitled "The American Anthropometric Society," has lately been founded at Philadelphia, under the presidency of Dr. J. Leidy, Professor of Anatomy in the University of Pennsylvania. Professor Virchow has been elected Honorary Vice-President. Its object is to have studies made of the brains of the members after they are dead. It is of the same character as the Mutual Autopsy Society which was started in this city some years ago, but which died before any of its members.

Sudden Death.—Dr. George D. Wilcox, of Providence, R. I., presented the Medico-Legal Society of that State a paper upon "Sudden and Unexpected Death," which is published in the *Medico-Legal Journal* of December, 1890. He tells us that over three thousand sudden deaths occur annually in England and Wales from unascertained causes. Among the causes that have been found he enumerates the following: Ambulatory typhus, pneumonia, peritonitis, and meningitis. Such affections may run a latent course, and be unsuspected until they end in sudden death. A circus clown fell dead in the midst of his performance; the autopsy revealed an immense single tubercle of the brain. Cerebral congestion, hyperæmia, anæmia, hemorrhage, serous exudation, compression, and concussion, all have contributed to sudden death.

Dr. Stevens G. Cowdrey, Surgeon in the United States Army, died on February 22d, in this city. Dr. Cowdrey came east from Santa Fé, New Mexico, in December, on a leave of absence. Dr. Cowdrey was born in New Hampshire in 1838. In 1848 he was appointed Assistant-Surgeon in the regular army, and last year was given the rank of Major.

The Harvard Medical Society of New York City, composed of graduates of the Harvard Medical School residing in New York, has recently been organized, with Dr. Rufus P. Lincoln as President, Dr. Paul F. Munde as Vice-President, Dr. Dillon Brown as Secretary, and an Executive Committee consisting of the President, the Secretary, and Dr. Frederic R. Sturgis, Dr. William J. Morton, and Dr. Henry C. Coe. Meetings are to be held on the first Saturday of each month, except June, July, August, and September.

A Society called the American Morphological Society has been organized in Boston.

The Columbian Fair and Medical Work.—The Standing Committee on Medical and Surgical Congresses of the Chicago World's Fair is as follows: Dr. N. S. Davis, Dr. H. A. Johnson, Dr. H. M. Lyman, Dr. J. S. Mitchell, Dr. R. Ludlam, Dr. R. N. Foster, Professor Oscar Oldberg, and Benjamin Butterworth, Secretary.

Dr. Henry W. Stevens of this city, assistant pathologist to the New York Hospital, died on February 22d, after what seems a very mysterious illness. On January 23d he performed an autopsy on the body of a man who had died of hydrophobia. He had previously injured his forefinger while dissecting. The sore on the finger was not healed at the time, and, to guard against danger, Dr. Stevens underwent a series of injections at the hands of Dr. Paul Gibier, of the Pasteur Institute, beginning January 26th and ending February 9th, when he was seized with paralysis of the lower limbs and severe nerve pains. His disease steadily progressed, assuming the features of multiple neuritis. The case suggests that of paralytic rabies, such as has been reported by Horsley and Bristowe. The shortness of incubation seems to make it unlikely, if not impossible, that it should be due to inoculations. Dr. Stevens was thirty-three years of age, and was universally considered to be a rising man.

The Middletown Insane Asylum receives nearly $100,000 annually from private paying patients, and it is thought that too many of the rich are taken there. A bill has been introduced at Albany to exempt the asylum from the operation of the law requiring State care of the pauper insane. This law obliges the Middletown Asylum, as it does all others, to receive pauper patients first, and not take pay patients, except under special conditions, until the paupers are provided for.

Legal Regulation of the Doctors.—The Georgia Legislature recently tried to enact a law to prevent its doctors from getting drunk, and now Missouri is to consider the advisability of limiting the fee for a visit between 8 A.M. and 9 P.M. to one dollar, and for an office prescription to fifty cents.

Office Thief Around Again.—He is tall, about six feet, slim, black mustache, weighing about one hundred and thirty pounds, respectable in appearance, and well dressed, speaking English first, then German. He visits at a time when he knows the physician not to be at home. He visited a physician in this city on Saturday at 4 P.M., and relieved him of "instruments, cigars, opera-glass, a ladies' pin, not forgetting to take the key of the office-door with him."

The Duty on Tuberculin.—It is decided that twenty-five per cent. duty *ad valorem* shall be collected on tuberculin.

St. Luke's Hospital has purchased the House of Rest for Consumptives, and will maintain forty-five beds there for consumptive patients.

Treatment of Lupus.—At the last meeting of the Society of the Alumni of Charity Hospital, February 10, 1891, Dr. Clarence C. Rice read a paper on "Lupus of the Nose and Throat," with a demonstration of cases under the Koch method of treatment. The paper elicited a lively discussion, and the cases shown by Dr. Rice prove without a doubt the great value of Koch's lymph in lupus.

Koch and Cabinet.—The following very suggestive advertisement appears in an exchange, alongside an announcement of a Koch institute: "For sale, a pneumatic cabinet for treatment of consumption."

The Prevention of Narcotic Inebriety.—At a meeting of the American Association for the Cure of Inebriety, held February 18th, at the Academy of Medicine, New York, Dr. J. B. Mattison, of Brooklyn, offered the following preamble and resolutions:

"*Whereas*, a leading cause of morphinism, chloralism, and cocainism is the facility with which morphine, chloral, and cocaine can be procured from pharmacists; and,

"*Whereas*, the refilling of prescriptions containing these drugs is a potent factor in the rise and growth of these diseases; therefore, be it

"*Resolved*, As the sense of this Association, that no retail druggist should sell morphine, chloral, or cocaine, except on a physician's prescription. That no prescription containing morphine, chloral, or cocaine, should be refilled except on the written order of a physician."

These were unanimously adopted, and a committee consisting of Drs. Mattison, Crothers, and Wright, was appointed to secure legislation along the line of the resolutions.

The Medical Society of the Missouri Valley.—The next meeting of the Medical Society of the Missouri Valley will convene at Omaha, Neb., March 19th, at 7.30 P.M.

Wisconsin Medical Practice Law.—The Wisconsin Legislature has recently passed an act creating three Boards of Medical Examiners, representing the Wisconsin State Medical Society, the Homœopathic Medical Society, and the Eclectic Medical Society of the State, respectively, each board to consist of three members appointed by the Governor.

Why not Ligate the Vas Deferens?—Dr. F. Deppler has the following to say regarding the effects of castration on woman, and its usefulness in promoting Malthusian ideals: The sexual desire remained, and was the more pronounced the earlier in life the operation was performed. The operation offers no impediment to marriage; three of the author's cases had married and had lived happily with their husbands for years. A marriage with a castrated woman is the ideal Malthusian marriage, and the only way the Malthusian idea can be carried out without endangering the health and happiness of the woman.

The People's Bath.—A new and attractive bath-house, on the most modern and approved plan, is about to be erected under the auspices of the New York Association for Improving the Condition of the Poor, adapted for use during the entire year and arranged for the use of both sexes.

The Building Committee is composed of Mr. William Gaston Hamilton, Dr. Gouverneur M. Smith, and Messrs. Roland Redmond, John E. Alexandre, and George Blagden. The architects are Messrs. J. C. Cady & Co. The structure will be built among the residences of the poor, in the rear of the Broome Street Tabernacle, and facing Centre Market. While the bath-house will be free to the most destitute, it is probable that admission fees of either two, three, or five cents will be charged to others, which will include soap and towels, and possibly in winter a cup of hot coffee. The question has arisen, will the poor of this city avail themselves of the privileges of cleanliness about to be afforded them? General Booth in his work "In Darkest England," etc., in describing a slum says, "None of the sufferers will entertain the thought of seeking a hospital. One probably voices the opinion of the majority when he declares that 'they'll wash you to death there.' For these people a bath possesses more terror than the gallows or the grave." We must hope that the American idea will be that "Cleanliness is next to Godliness."

Paralysis from Hypodermic Injection of Ether.—A Vermont physician writes to the *Times and Register* as follows: "I injected thirty minims of Squibb's ether into the forearm of a patient in collapse, and whiskey afterward, and am accused by a physician in another town of causing a loss of motion, which now exists, in the hand and forearm. The patient belonged to another physician, and I was called in his absence. The next day it was discovered that the power to use the arm was gone, and now, although improved somewhat, the hand is useless. I am on good terms with the patient, and there is no suit going to arise; but I am being injured in my practice by the report which has spread. Now, if an injection of ether can injure a nerve or cause such trouble, the profession should know it; and I want to know it also, so as to be on my guard." It has been shown by Arnizan and Salvat, and also by Petres and Vaillard, that hypodermic injections of ether may produce a local destruction of the nerve-fibre just as if a section of it with a knife had been made. Of course, paralysis and anæsthesia may follow. A good many cases of such accidents from the injection of ether have been reported. The patients recover, but still there is harm done; and physicians who inject ether hypodermically should never insert it in the arm or legs, but always in the trunk; and the injections should be superficial.

Salol in Enteric Fever.—Dr. Hirtz employs salol to produce intestinal antisepsis. In enteric fever he gives a dose of 3 j. in the twenty-four hours, with salicylate of bismuth. He thinks that by this medication intestinal antisepsis is better attained than by naphthol, and it has the advantages over the latter that it is well borne by the patient and also disinfects the urinary tract. In the intestine salol is decomposed into phenic and salicylic acids, which are powerful antiseptics and antipyretics. He gave salol in daily dose of 3 jss. for three weeks to one patient, without causing any gastric disturbance.

FURTHER CONTRIBUTIONS TO THE PATHOLOGY OF THE LYMPH.

The most conflicting clinical reports on the results of lymph treatment still continue to appear in our foreign exchanges. In France Koch's fluid has been violently denounced. Scarcely a single note of praise is heard in the general chorus of utter condemnation. In England there is a manifest tendency to reserve judgment until more is known, although an undertone of enlightened scepticism can be noticed. Even in Germany professional opinion is still very much divided as to the real merits of tuberculin, while in Austria some severe strictures on Koch and his method have been published.

It is impossible to properly sift the numerous clinical records that have found their way into print; but several contributions to pathological histology have just been made that are deserving of notice. Professor Rindfleisch has studied the effects of Koch's lymph upon tubercular deposits, and he concludes that tuberculin has unmistakable healing properties (*Deutsche Medicinische Wochenschrift*). This is particularly noticeable in intestinal ulcers. He is unable, however, to verify Koch's assumption of tissue necrosis. According to Rindfleisch the lymph excites acute inflammatory changes around the tubercular nodules. There results a sharp line of demarcation between tissue which is hopelessly doomed, and that which is still capable of cicatrization. A tubercular deposit is a granuloma. Under lymph treatment the round cells of this granuloma tend to assume a spindle shape, the spindles become joined so as to produce fibres, and an ordinary fibrous cicatrix is finally formed. Thus, according to Rindfleisch, instead of necrosis and sloughing, cicatrization of tubercular deposits is invited by the lymph.

Theorizing on the possible effects of the fluid, Rindfleisch is willing to admit that, in a concentrated form, it may lead to necrosis. But in the ordinary dilutions employed in treating human patients, he suggests that immunity against tubercular infection may be hoped for, on the principle underlying ordinary vaccination.

Dr. Schimmelbusch, of Bergmann's clinic, has arrived at somewhat similar conclusions, although he has pursued an entirely different method of investigation. Instead of utilizing the pathological material of the dead-house, he has excised portions of skin and mucous membrane from living patients, in various stages of the Koch treatment. About thirty patients supplied him with abundant material for microscopical studies. Cocaine anæsthesia was used in performing the excisions.

He, too, was unable to find any evidence of tissue necrosis in the tubercular nodules. He points out that lupus should readily show this coagulation necrosis, or cellular disintegration, if such processes were really induced by the lymph. What he did find was merely an exudative inflammation around the tubercular deposits. Of course, he does not dispute that ulcerative destruction of tubercular nodules may be indirectly hastened by the lymph, if such destruction is already under way. The well-known tendency of tubercular infiltrations to break down may possibly be promoted by Koch's lymph, but it does not itself produce necrosis. It is an excitant of inflammatory action.

Lormenburg claims that pulmonary cavities do well under combined surgical measures and inoculation treatment. He speaks of the "cleansing" of cavities.

Professor Ehrlich and Dr. Guttmann have examined the blood of Koch patients, without result as to the finding of tubercle bacilli.

Virchow, in order to show his impartiality, demonstrated a further series of specimens at the last meeting of the Berlin Medical Society. Intestines were shown, in which some tubercular ulcers were evidently healing, although other ulcers did not show a process of repair. But an interesting specimen was also exhibited, in which reparative action was evidently taking place at the time of death, although no lymph had been injected.

The latter observation is undoubtedly a timely one, as the lymph enthusiasts are apt to forget that tuberculosis has been found amenable to treatment before the advent of tuberculin.

It is unnecessary to make any further comment on this, the latest phase of Koch's discovery, than to repeat that the interesting subject is not yet ripe for final judgment.

Reviews and Notices of Books.

The Patients' Record, for the Use of Physicians and Nurses. Compiled by Agnes S. Brennan. New York: The Knickerbocker Press, G. P. Putnam's Sons.

It is universally conceded that, in the proper treatment of any case, it is of immense value, a necessity almost, to keep a detailed record of the condition of the patient. There are many books compiled for this purpose, but none excel, if any equal, the admirable work just compiled by Miss Brennan. With a long experience as Superintendent of the Bellevue Hospital Training School for Nurses, and recognized as a leading teacher in her chosen profession, she knows just what is needed and how it can be placed in the most convenient form. Her work answers every requirement. There is space for the record of temperature, pulse, respiration, medicine, nourishment, stimulants, and urine, as often as it may be wished to make that record. There are slips inserted for the physician's orders, and there are also a dozen independent detachable temperature charts of the most improved pattern. Inferior books, note-books, and slips of paper, need no more be used with this book in the market, and with such a record properly kept there will be no excuse for mistakes.

Text-book of Materia Medica for Nurses. Compiled by Lavinia L. Dock, Graduate of Bellevue Training School for Nurses, Superintendent of Grace Memorial House. Pp. 201. New York: The Knickerbocker Press, G. P. Putnam's Sons.

Trained nurses should be well posted in materia medica. They should know the preparations, appearance, doses, poisonous symptoms, etc., of the drugs which they deal out to their patrons. Of therapeutics, it is not necessary that they should have an extended knowledge. That is in the realm of the physician. It is on these lines that the trained nurse is taught in our training schools. Heretofore there have been no text-books adapted to them. Either they were too exhaustive, going too deeply into physiological actions and therapeutics, and likewise expensive, or they were too concise, presupposing an amount of knowledge that the ordinary nurse doesn't have. Miss Dock, in her book, proposes to fill this middle place, and she does it admirably. After her graduation at the Bellevue Training School she was an assistant superintendent and a teacher whom the nurses justly admired. Consequently she knows what is wanted and needed by them, and this she supplies. The work is interesting, valuable, and worthy a position in any library.

The Time Relations of Mental Phenomena. By Joseph Jastrow, Professor of Psychology at the University of Wisconsin. Pp. 60. New York: N. D. C. Hodges.

This is one of that very excellent series of "fact and theory papers," issued by *Science*. The careful study of the subject is useful, the author says, in that it serves as an index of mental complexity, it indicates a mode of analysis of simpler mental acts, it demonstrates the close interrelation of psychological with physiological facts, and it suggests means of lightening and shortening mental operations. The gifted writer then proceeds to study and expatiate upon his subject in a manner that is at once very deep, interesting, and instructive.

Diseases of the Eye. By Edward Nettleship, F.R.C.S., Ophthalmic Surgeon to St. Thomas' and Royal London Hospitals. Fourth American from the fifth English edition, with a chapter on Examination for Color Perception, by William Thomson, M.D., Professor of Ophthalmology in the Jefferson Medical College of Philadelphia. Pp. 492. Illustrated. Philadelphia: Lea Brothers & Co.

The new edition of this work will be very welcome. It is an improvement on the old, having many useful additions to the text, and a number of handsome new plates.

A Manual of Auscultation and Percussion. Embracing the Physical Diagnosis of Diseases of the Lungs and Heart, and of Thoracic Aneurism. By Austin Flint, M.D., LL.D., Professor of the Principles and Practice of Medicine, and of Clinical Medicine in the Bellevue Hospital Medical College. Fifth Edition, thoroughly revised, by J. C. Wilson, M.D., Lecturer on Physical Diagnosis in the Jefferson Medical College. Pp. 268. Illustrated. Philadelphia: Lea Brothers & Co.

Ten years ago Professor Flint issued his work on physical diagnosis. With unsurpassed advantages for clinical study, of an original, investigating mind, and gifted with an unusually strong, facile pen, Dr. Flint was just the man to produce a good work. He did. It immediately took a first rank and has since retained it. No similar work has been more studied nor more relied upon. The book contains the results of Dr. Flint's original investigations, but its chief value, as the editor says, lies in the clearness and appropriateness of its style, the accuracy of its statements, its scientific method, and the practical treatment of subjects at once difficult and essential to the student of medicine. The work is a classic, and the present edition, with the additions that progress makes necessary, will be warmly received.

A Practical Treatise on Impotence, Sterility, and Allied Disorders of the Male Sexual Organs. By Samuel W. Gross, A.M., M.D., LL.D., Professor of Principles of Surgery and Clinical Surgery in the Jefferson Medical College, etc. Fourth Edition, revised by F. R. Sturgis, M.D. Pp. 175. Philadelphia: Lea Brothers & Co.

Three editions of Professor Gross' valuable book have been exhausted, and still the demand is unsupplied. Consequently Dr. Sturgis has revised and added to the previous editions, and the new one appears more complete and more valuable than before. Four important and generally misunderstood subjects are treated—impotence, sterility, spermatorrhœa, and prostatorrhœa. Impotence and spermatorrhœa are shown commonly to depend upon reflex disturbances of the genito-spinal centre, induced or maintained by lesions of the prostatic urethra. In the chapter on sterility the abnormal conditions of the semen that make it unfruitful, and the causes for such abnormality are fully considered. Sterility is shown to be the fault of the husband in at least one-sixth of the cases, and hence this subject deserves especially careful study. The book is a practical one and, in addition to the scientific and very interesting discussions on etiology, symptoms, etc., there are lines of treatment laid down that any practitioner can follow, and which have met with success in the hands of the author and editor.

Atlas von Beleuchtungsbildern des Trommelfells. By Von Dr. Kurd Bürkner. Jena. 1890.

This work consists of fourteen tables of colored chromolithographs giving views of the drum-head in various acute and chronic inflammatory processes of the middle ear. The author is director of the Aural Department of the University Poliklinik, Göttingen, and this painstaking work is intended to fill a want long felt in clinical instruction, no complete work of the kind having been offered the profession since the admirable works of Hinton and Politzer, which came out over twenty years ago. Table I. represents the normal drum-head and ruptures by both direct and indirect force. Table II. shows effect of ecchymosis, pigmentation, acute inflammation of the drum-head, fracture of the malleus handle, etc. Table III. exhibits acute and chronic inflammation of the drum head. Table IV. Cholesteatoma, exostosis, and various anomalies in connection with otitis media acuta simplex. Table V. Appearance of drum-head in effusion of fluid in the drum. Tables VI., VII., and VIII., represent various anomalies due to suppurative and non-suppurative chronic processes in the middle ear. Table IX. illustrates the appearances in acute purulent otitis media. Tables X., XI., XII., XIII., and XIV., show the many results of chronic purulent inflammation of the middle ear.

Transactions of the American Gynecological Society, for the Year 1890. Edited by Henry Clark Coe, M.D., Secretary of the Society. Philadelphia: William J. Dornan. 1890.

The volumes of annual transactions of all societies do not differ greatly from year to year, and we give sufficient praise in saying that this one is fully up to the standard of its predecessors. The annual sessions were held at Buffalo in September last, and were attended by twenty-one Fellows out of a total active membership of about seventy, about the usual proportion at such gatherings. The volume contains twenty-one papers on scientific topics, besides the annual address of the retiring President, Dr. John P. Reynolds, and a memorial of the late Dr. W. H. Byford of Chicago. No startling discoveries in gynecology have been made during the past year, and we therefore expect and indeed find the topics of the papers to suggest the every-day experiences of clinical practice. Drs. Skene, Hanks, Coe, Jewett, Murray, and Grandin, represent this end of New York State among the authors. The President's address is an admirable discussion of the ethical and sociological features of the marriage problem.

New York Charities Directory. Fourth Edition. 12mo, pp. 400. Published by the Charity Organization Society of New York City. 1890.

This is a classified and descriptive directory of the charitable and beneficent societies and institutions of the city of New York. It is as complete as it is possible to make a volume of this kind. We have given it a somewhat careful examination and have not thus far discovered the slightest omission or inaccuracy in it. An index with nearly three thousand headings facilitates its use. Maps are given showing the Society's division of the city into working districts. We cannot too highly commend this volume to the physician and to all who are charitably disposed. The former will find in it answers to all the perplexing questions constantly put to him by patients and their friends. To the latter it will serve as a judicious adviser, telling them where and how their benevolence may be best bestowed. We think it will surprise even many old residents of New York to read over the long lists of charitable organizations, which, according to the index, include everything from "beef-tea" to "moral aid."

Memorial Sketches of Dr. Moses Gunn. By His Wife, with Extracts from His Letters and Eulogistic Tributes from His Colleagues and Friends. Illustrated. Pp. 380. Chicago: W. T. Keener, 96 Washington Street.

This handsome work is the tribute of a true, loving wife to a noble husband, and it contains inspiration and encouragement for every reader. Moses Gunn, LL.D., M.D., was a famous surgeon and teacher of the faculty of Rush Medical College, Chicago. He died November 4, 1887. His experience in hospitals, on the field of battle, and in Europe are of absorbing interest.

Society Reports.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Stated Meeting, January 26, 1891.

ORLANDO B. DOUGLAS, M.D., PRESIDENT, IN THE CHAIR.

The Caustic Treatment of Cancer.—DR. DANIEL LEWIS read a paper on this subject. Cancer, he said, must be destroyed, and in some way removed from the body. Two methods had been employed: 1. By absorption, under which the tumor was supposed to be softened by some agent, as electricity, and changed into a form in which it could be carried away. This method, he thought, was so irrational and hazardous that it should be dismissed from consideration. If necessary, he could cite many cases in which the mild galvanic current had disseminated the disease. 2. By removal, accomplished by operation or escharotics. There were some surgeons who approved of nothing but the knife; some quacks claimed to be able to cure all cases better without the knife. Both parties were in error. The object of the paper was to point out the cases suitable for caustic treatment, and his views, he said, were based on the treatment of one hundred cases in hospital and private practice. Mild caustics were to be strongly condemned. Among them he named nitrate of silver, carbolic acid, resorcin, etc. These were not true escharotics, but rather irritants. An agent should be used which caused complete and rapid destruction of the diseased tissue, otherwise the absorbents would be stimulated to disseminate the disease.

For convenience he divided the cases of cancer into, 1, those of the breast, axillary and cervical glands, vulva, testes, penis, and rectum; 2, cancer of the cervical portion of the uterus, tongue, and tonsil; 3, cutaneous cancer, including cancer of the lip and external ear. The author then gave his reasons for preferring the knife in all these forms except the last, cases of cutaneous cancer. Regarding the treatment of cancer of the cervix uteri by caustics, he said that a considerable number of cases had been under his care, and all patients so treated excepting one were dead, and this patient could not live long. But, with regard to cutaneous cancer, or epithelioma, he saw no reason why ninety per cent. of the cases should not be cured if taken early. The most satisfactory method was by escharotics. The patients were usually beyond middle age, bore ether badly, dreaded the knife, and, if it were suggested, would postpone the operation. The resulting cicatrix from escharotics, when they were not left on too long, was usually smooth and white; recurrence was not more frequent than after the knife. The caustic was applied as a paste, of which there were three kinds most in use, namely, Jenning's, Marsden's, and Bougard's. The latter was preferable in some ways. The cutaneous surface was first broken by caustic potash, so that the paste would more quickly take hold. The paste should be reapplied until all diseased tissue had been eaten away. One application usually remained on twelve to twenty-four hours.

Bougard's paste is composed of: Wheat flour, 60 parts; arsenic, 1; cinnebar, 5; sal ammoniac, 5; corrosive sublimate, 50; solution of chloride of zinc, at 52°, 245 parts. Mix. Jenning's: Cocaine, 20 grains; caustic potash, 120 grains; vaseline, 60 grains. Marsden's: arsenious acid, two parts; mucilage of acacia, one part; form a paste which will not run.

Two men were presented who had had epithelioma of the lip removed by the escharotic, leaving scarcely a perceptible cicatrix.

The paper was discussed by Drs. C. W. Allen, G. H. Fox, and F. A. Burrall, who concurred in its principal features.

Results Obtained by the Use of Heat and Cold Applied to the Spine.—DR. B. D. KINNEAR, the author of the paper, said that while it was not his object to explain Chapman's system, yet he wished to draw attention to it, with the hope that the profession might study and use it, as he had himself been very successful in its employment. The system recognized five sets of nerves: those of sensation, of motion, of the glandular and secretory organs, those supplying the blood-vessels, causing them when active to contract, and nerves distributed to the ultimate cells of every bodily tissue. In applying this system to therapeutics, it was claimed than an excess of circulation in the central cell or cells of a nerve gave rise to abnormal action. In the case of nerves of sensation, for instance, according to the varying amount of blood supply to the centre would there be a feeling of itching, soreness, or neuralgia, indicating different strengths of nerve-current. The same illustration would apply to other nerves, according to their function. Equalized metabolic changes throughout the body were believed to constitute health, while unequal or irregular metabolic changes constituted disease; an equable circulation of the blood indicated health; an irregular circulation was disease. Dr. Chapman, he said, believed that nerve-force was due to circulation of blood within the nerve-centre. When there was hyperæmia within the centre, there was a powerful nerve-current; in anæmia it was weak. It was also Dr. Chapman's view that the circulation was balanced between the sympathetic and the atrophic nerves, the latter being those distributed to the ultimate tissue cells, which were thought to be cerebro-spinal.

Coming to actual application of treatment based on these views, heat or cold was applied to the different portions of the cord according to the indications for the one or the other. Rubber bags were made use of, containing two columns of hot or cold water or ice, so that they could be applied on both sides of the spine, for the purpose of influencing the sympathetic nerves lying deeply in these regions. By applying heat over the cervico-dorsal region, the sympathetic, controlling the circulation in the head, would be caused to contract, diminishing the blood supply and relieving, for instance, certain forms of headache, and other conditions dependent upon congestion. The warmth should not be greater than 115° F. to 120° F., otherwise it would have the contrary effect. In this way he said he had relieved in one case insensibility, or the comatose state of Bright's disease, as it came on from time to time. In another case of attacks of unconsciousness, throbbing temples, etc., heat was applied in the cervico dorsal region and cold over the dorso-lumbar region, the latter causing the blood to flow to the lower extremities. The method acted promptly in epistaxis, especially if acute; also in one or two cases of pneumonia, a case of milk-leg, swelling of the mammæ, threatened abortion, whooping-cough, hay fever, contractile paralyses, etc. An agent of such power, if applied carelessly, might do harm; for it was evident that to throw a quart of blood shortly upon a structure where it should not be, might produce congestion and inflammation.

Time did not permit of discussion of this and the next paper.

Injections of Aniline Oil in Tuberculosis.—DR. C. E. BRUCE gave the results of some experiments which he had been making in the treatment of pulmonary tuberculosis on Ward's Island, by injections of aniline oil hypodermically. There being some objection to fuchsin or other single preparation of the aniline dyes, it had occurred to him to employ the aniline oil from which these were made, by incorporating it with sterilized olive oil. He made a five per cent. solution, of which he injected five minims, running the dose up from day to day according to circumstances, as high as thirty or more. A much larger amount had been attained in a trial case. The cases were of advanced phthisis, over twelve in number; there was always some reaction, temperature rising to about 101° F.; the sputa became less tenacious, more easily expecto-

rated; the dyspnœa, stridulous cough, and general distress abated, the appetite improved, and in almost all the cases there was a gain in weight. That the aniline preparations had a wonderful influence on pyogenic conditions present on the surface, as in suppurating buboes, carbuncle, etc., was undoubtedly true; and he thought the agent, used as he had described, might exert some germicidal effect.

The Society then adjourned, after which a collation was served.

NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, December 10, 1890.

J. West Roosevelt, M.D., President, in the Chair.

Azoospermia.—Dr. Charles Heitzman reported one of these rather rare cases, and exhibited a specimen of the seminal fluid under the microscope. The fluid had come from a German, thirty-three years of age, who had been sent to him for examination by Dr. F. W. Lilienthal, with the following history: The patient had been a masturbator from his seventeenth to his twenty-seventh year; had had gonorrhea three times, the first time for six months with accompanying epididymitis on the left side. He was sexually excitable, had a small penis, and markedly small testes. No remains of the epididymitis. He had been married two years, and his wife had not been pregnant. Microscopical examination of his semen revealed the following features: a few phosphatic crystals, a few red blood-corpuscles, a few so-called testicular elements, a large number of urethral epithelia, a moderate number of globular and oblong corpuscles looking like the heads of spermatozoids, numerous delicate, mostly straight filaments, looking like the débris of spermatozoids, but not a single fully developed spermatozoid. The bulk of the semen was composed of mucus. A second case had come under his observation during the past week, in another German, forty-eight years of age, under the care of Dr. Louis Heitzman. This man had likewise had gonorrhœa and left-sided epididymitis, the epididymis being still indurated. The penis and testes were normal in size. He had been married four years, and his wife was sterile. In this case the seminal fluid appeared crowded with minute fat granules, a few red blood-corpuscles, a few so-called testicular elements and filaments, like broken tails of spermatozoids. No phosphatic crystals, no spermatozoids. As to the causation of azoospermia, Dr. Heitzman considers it a congenital disturbance in the formation of spermatozoids, but not as a result of an epididymitis, which affects only the conducting apparatus of the testis. In his opinion, based upon the study of the development of spermatozoids in rats, the filaments arise in the interior of the epithelia of the seminiferous tubules, by a direct transformation of the filaments of living matter held in the epithelia, after a preceding fusion of a row of epithelia into an elongated protoplasmic mass. The portion nearest the tubular wall is changed into heads of spermatozoids, the central portion, on the contrary, being transformed into the tails. Some of the epithelia escape such a transformation, and appear as the so-called testicular elements. Absence of fusion of the tubular epithelia would explain the appearances in azoospermia, where the heads are destitute of tails, and the latter look as if broken up into small thread-like pieces.

In 1873, Dr. Heitzman published a description, in which he said that every article of what had been called protoplasm had a delicate reticulum of living matter, every particle of which was endowed with all the properties of life which had hitherto been attributed to protoplasm in general. The existence of this reticulum had been shown by untouched photo-micrographs made by Strycker, and advanced histologists admitted the correctness of this description. Previous observers had thought that there were specific spermatoblasts, while he claimed that this reticulum in the epithelia became directly transformed into the spermatozoids with the exception of a few protoplasmic masses, usually spoken of as "the testicular elements."

The President said that this theory, that the fusion of cells produced on the one hand the head, and on the other the tail of the spermatozoids, was most interesting, and merited careful consideration and discussion.

Tuberculosis Limited to the Bronchial Lymph Nodes.—Dr. W. P. Northrup presented a case of this description. A female child, aged three years, born in the maternity wards of the New York Foundling Asylum, was taken sick with measles, early becoming croupy, giving evidence of its diphtheritic nature in the pharynx, soon requiring intubation, and at last developing pneumonia. After an illness of six days it succumbed, and presented on autopsy these interesting peculiarities, viz., tuberculosis limited to the bronchial lymph nodes. The nature of the process has been substantiated by finding tubercle bacilli in the small and large cheesy masses in the nodes grouped at the bifurcation of the trachea. These opaque white masses were plainly seen at autopsy, the size varying from a millet seed to a pea. No other tubercles could be found anywhere in the body after careful search.

The remaining notes of the autopsy are of no special interest. The child was well nourished; its diphtheritic exudate extended from the tip of the epiglottis to the finest branches of the bronchi. Bronchial nodes, about half a dozen in number, were tuberculous, only two of them, however, were extensively cheesy. The remaining nodes were slightly enlarged and contained small discrete masses of varying size. There was extensive recent broncho pneumonia, but no tubercles were in the lungs. This case was unique in his experience. He had long hoped to find this condition, for a large majority of cases had given fairly plain evidence that their oldest tubercular process was in these nodes. He believed that a collection of the cases recorded in the dead-book of the New York Foundling Asylum would give, with this case, an unbroken series illustrative of the theory that, by far the largest percentage of cases of general tuberculosis had their earliest infection in the lymph nodes clustered about the root of the lungs.

General Tuberculosis with Extensive Necrosis of One Lung.—Dr. Northrup also presented specimens from such a case. A male child, aged five months, was returned from the Out-door Department of the New York Foundling Asylum, with the diagnosis of pneumonia. In addition to the pulmonary lesion, it had marked intestinal disorder, the two giving a temperature of 103° and 104° F. The diarrhœa and temperature gradually subsided, so that on the fifth day the thermometer registered 101–99.5° F., and on the eighth day, 98.5° F. The first notes of the case record that at the right apex in front there were fine râles, bronchial breathing, dulness almost amounting to flatness, with fair resonance. The diagnosis at this time was apex pneumonia with unusual signs. Two weeks later, the signs were not yet certain, and, from the extreme dulness, the diagnosis was inclined to favor encapsulated fluid at the anterior upper front of right lung. There was absence of respiratory murmur, marked dulness behind as well as in front; râles in axillary region elicited by coughing, at the same time the resonance below both in front and behind continuing fair. A needle was passed into the region of anterior dulness and brought away a few drops of turbid fluid, which showed under the microscope recent pus-cells. This was thought to justify the diagnosis already made, of encapsulated empyema, but the quantity of fluid seemed strangely small. Another puncture behind, below the angle of the scapula, brought a few drops of pus, but even less than anteriorly. An operation was not considered advisable, and after about two weeks more without elevation of temperature, and with gradual failure of flesh and strength, the child died. At the autopsy, no superficial enlargement of the lymph nodes was found. There was general tuberculosis.

The chief point of interest was in the upper lobe of the right lung. In its anterior portion, involving the pleura, and fusing it with the costal pleura, was a large tuberculous mass containing a central sphacelus. The latter was lying loose in the cavity opened in removing the lung, was irregularly disk-shaped, one and one-half inch thick, and cheesy, crumbling at its margins. On manipulation, the cheesy mass easily came out of its bed, disclosing a cavity with an irregular floor strewn with crumbling cheesy pieces, with several openings admitting a probe, which found its way out through the larger bronchi to the main bronchus. The remainder of the upper lobe was pneumonic and contained tubercle-tissue. The lower lobes of the right lung were somewhat congested. The left lung was normal. The bronchial lymph nodes of the right lung and right side of trachea, at its bifurcation, were enlarged and softened in their centres. One especially large one was situated close against the right apex, resting upon the largest bronchus leading to the cavity. No opening could be detected between them. The cheesy and diffluent glands about the root of the lung were conspicuously near the necrotic area, but there was living tissue between these glands and the cavity containing the sphacelus. This living tissue was densely infiltrated with tubercle-tissue, and the vessels and bronchi leading to the cavity passed through the tubercular mass. Within this small sphere was included all the tubercular process, lung and nodes. Which was the older, the lymph-nodes or the lung necrosis? The case demonstrates the possibility of tuberculosis developing first in the lymph nodes at the root of the lung. Numerous specimens presented by Dr. Northrup to the Society had made conspicuous the fact that the oldest process may be limited to the nodes, while only the most moderate spreading of the process in the immediate vicinity had taken place. He had presented one specimen showing a tubercular inflammation surrounding and closing up an artery at the base of the brain, with softening and destruction of the region which it supplied. The oldest process was probably in the large cheesy and diffluent nodes. From there the process spread by continuity of tissue to the lung, in which one or more were embedded. The thick, dense tubercular inflammation involved the vessels supplying the region of the necrosis, shut off the blood supply, and caused death of the mass, resulting in the sphacelus. With this wholesale destruction of tissue, it is easy to believe that bacilli escaped into the general circulation, resulting in the general infection and consequent development of recent, discrete miliary tubercles of the brain, liver, spleen, and kidneys. Numerous specimens presented to the Society had shown cavities varying in number and size, in children's lungs, but a case like this one had not come under his observation before.

There is a record of a similar abscess of the upper right lobe, involving nearly its entire extent, in a nine months female child. This child was anæmic and had a slight cough. There was no history of pneumonia. Nine days before death she was taken with measles, and subsequently developed some diarrhœa. On autopsy there was extensive pneumonic consolidation, the only aerated portions in both lungs being the middle lobe of the right, and posterior portion of the opposite lower. In addition to the abscess referred to above, there were tubercular, cheesy, enlarged glands at the roots of the lungs, and tubercles in the liver, spleen, kidneys, mesenteric glands, with tubercular ulcers of the intestines. The tubercles in the organs other than the lungs, were few in number, and fine.

Dr. Heitzman said that he had seen such cases of primary tuberculosis in the lymph nodes. He had specimens in his collection from one case in which there was considerable enlargement of the bronchial nodes, which by pressure caused extreme dyspnœa and death.

Dr. Northrup remarked that his paper was based upon his own personal experience, and out of about two thousand autopsies, this was the first instance in which he had met with this condition. In answer to a question from Dr. Biggs, as to why the condition found in the specimen could not be explained as the result of coagulation necrosis, rather than on the assumption that the arteries were plugged, Dr. Northrup said that he had thought the explanation necessary in order to account for the extensive destruction of tissue without liquefaction.

Dr. H. M. Biggs said that this case was quite in harmony with the observations reported by Dr. H. P. Loomis, in regard to the primary involvement of the bronchial lymph nodes. It was not uncommon to find, in adults whose lungs showed no evidence of tuberculosis, cheesy and calcareous bronchial nodes.

The President said that he would like again to bring distinctly before the Society the question of the direction of the lymph currents, about which nothing definite was known. The answer to this question might enable us to determine the course of the bacilli from the nodes to the lungs. Occasionally cases were found in which there were cheesy tuberculous masses in different parts of the body along with tubercles of the pulmonary pleura, but without any evidence of tuberculosis in the remaining portions of lung. The theories usually advanced to explain the mode of infection of the lung with tuberculosis were exceedingly crude. Dr. Roosevelt had devoted two years of hard work to this subject, and had not found a single instance in which there was definite proof that the tubercle bacilli had been introduced by inhalation, and had lodged at any point beyond the main bronchi. We knew nothing definite concerning the manner in which the large majority of cases of pulmonary phthisis were contracted, and there had been absolutely no explanation for the occurrence of pulmonary phthisis in the upper lobes of the lungs in about ninety-five per cent. of the cases, whereas in about eighty per cent. of cases of pneumonia of the infectious type the lesion was in the lower lobes. There was some evidence pointing toward the digestive tract as a common channel for tubercular infection, and this should direct our attention not so much to the dust we inhaled as to the quality of our food.

Dr. Northrup had found that in a very large percentage of cases of general tuberculosis in children, the tuberculous process occurred earliest in the bronchial lymph nodes.

Endothelioma of the Pleura.—Dr. H. M. Biggs presented specimens of this rare condition. They were removed from a man sixty-six years of age, who, nine years ago, had some pulmonary trouble which was supposed at that time to be tubercular. He recovered from this, but about six or seven months ago his health began to fail without any symptoms of any definite disorder. Two months ago a slight cough developed, and a subsequent examination of the chest showed thickening of the left pleura. One month later, a small quantity of fluid was found in that pleural sac. The process was supposed to be tubercular, but no examination of the sputum was made, and no fluid withdrawn at that time. During the last ten days of life he failed rapidly, and the fluid quickly increased in the pleural cavity. Sixty-six ounces of bloody serum were removed from the left pleural cavity, but he died very suddenly on the evening of the same day. The autopsy revealed an endothelioma of the pleura. Dr. Biggs had only seen one other instance of this condition, and in that case there was a similar history, except that it was of much longer duration. The pleura in the present case was considerably over one-half an inch in thickness at one or two points, and on section a thick mucoid substance could be scraped from its surface. The process involved the whole left pleura. The right pleura showed old adhesions and cheesy masses with fibres of new formation around it, evidently tubercular, and probably dating back to 1881, when he had the attack of localized pulmonary trouble. The bronchial lymph nodes were also very greatly enlarged. There were a large number of nodules in both lungs, about eight or ten in the liver, and one or two in each of the kidneys. Some frozen sections

had been prepared and were exhibited under the microscope. Histologically, the tissue of this growth was composed of irregularly branching, apparently anastomosing tubules filled with large, flat, nucleated cells. The other case to which he had alluded was that of a lawyer of this city, who was admitted to the New York Hospital for what was apparently pleurisy with effusion. The fluid accumulated rapidly after each aspiration, so that he had been aspirated six times before he was discharged from the hospital. It was not thought advisable to continue the tappings lest the fluid might become purulent. Some months later, he came under the speaker's care, suffering from dyspnœa due to effusion in the pleural cavity. The fluid was then hemorrhagic. He was aspirated from time to time during the next six or eight months, and altogether he was aspirated fourteen times within a period of about two years. Before his death a large mass developed along the free border of the ribs on the left side, and some fluid accumulated in the peritoneal cavity. The dyspnœa became more severe, and was not even relieved by the removal of the fluid. He died apparently from asphyxia. At the autopsy the pleura was found to be enormously thickened, and a large mass was found attached to the cartilages of the floating ribs on the left side; the whole of the peritoneum was covered with new-growths, and the pericardium and right pleura were filled with the same nodules. About half a dozen small growths were also present both in the lungs and in the liver. These growths presented a similar structure to that exhibited in the specimens just presented.

Tubercular Meningitis Following Operation for Osteitis of the Shoulder.—Dr. V. P. Gibney presented the proximal end of the humerus, which had been removed from a boy eleven years of age. He had been admitted to the hospital on October 1st, suffering from dry osteitis of the shoulder. An incision was made anteriorly with the intention of excising the bone. On drilling into the bone a collection of pus was found. The opening was enlarged and curetted thoroughly until all diseased bone was apparently removed, and the opening was large enough to admit the index finger. A drainage-tube was inserted and antiseptic dressings applied. After about two weeks the tube was withdrawn, and the sinuses continued for a while to discharge slightly. On November 30th, or about six weeks after the operation, tubercular meningitis developed. The boy was attended through this illness by Dr. L. E. Holt, who also made the autopsy. The other specimens were to be presented at some other time. The specimen showed that the cavity which had been entered and drained extended into the joint itself, but the glenoid cavity was almost intact. An interesting question in connection with the case was, "Did the operation precipitate the attack of meningitis?" It had seemed to him that, as the wound had healed so kindly and the patient had recovered from the operation without any bad symptoms, the meningitis developing after this rather long interval could only be considered as a coincidence.

Tubercular Osteitis of the Femur.—Dr. Gibney also presented a specimen illustrating tubercular osteitis of the head of the femur. He had removed it a few days ago from a boy, and the progress of the case since the operation had been satisfactory. This tubercular osteitis had developed when the patient was only four months of age, and a similar disease appeared last fall in the left knee. The specimen was a good illustration of the reparative process. Dr. Gibney referred briefly to another case in which extensive destruction of bone was found at the time of operation, which was performed notwithstanding that there was no grating in the joint.

Dr. Northrup said that tubercular meningitis was a frequent occurrence in the course of any chronic joint disease, independent of the question of operation.

The President thought the specimen showed that the general system had been pretty well excluded from the field of operation, and that it was very improbable that the operation had anything to do with the development of the meningitis.

The President exhibited a lung which had been prepared by a special method, by which its color and elasticity had been wonderfully preserved. The specimen has been prepared nearly a year before, and yet it could be readily inflated with air to the full extent, and on removing the pressure of air it would contract to the same extent as a fresh lung. Its normal elasticity was so well preserved that the same pressure of air was sufficient to inflate this specimen as was required for the inflation of the lung when in the fresh state.

The Society then adjourned until January.

Stated Meeting, January 14, 1891.

J. West Roosevelt, M.D., President, in the Chair.

The Lung from a Case Treated by Koch's Lymph.—Dr. H. P. Loomis presented a section of a lung, which had been removed by Professor Virchow from a case which had died while under treatment with injections of Professor Koch's "lymph." The portion of lung from which the section had been taken had been obtained by Dr. C. E. Quimby. The patient was in an advanced stage of phthisis, and had received at the Charité Hospital a number of large injections of Koch's fluid. No history of the case could be obtained. From the conditions presented at the autopsy it was hardly right to assume that these injections were the direct cause of death. The section which Dr. Loomis presented was taken from the upper lobe of the lung, and included a portion of the pleura, with an old tubercular nodule situated beneath it. The air-cells surrounding this nodule were seen to be the seat of an intense catarrhal pneumonia, and large epithelial cells with a few pus-cells almost completely filled the alveolar spaces. Many of the air-cells near the edge of the specimen were filled with granular matter, presumably derived from degenerated blood corpuscles, for the capillaries throughout the specimen were intensely congested, and in a few of the alveoli red blood corpuscles were to be seen. The terminal bronchi in the section presented evidences of an extensive bronchitis. The pleura was thickened, and the old and new capillaries in it were packed with red blood corpuscles. No foci of softening, nor eruption of fresh tubercles were seen. A section of the lung stained with fuchsin and Bismarck brown showed tubercle bacilli in the centre and about the periphery of the tubercular nodule. The nodule itself was unaltered, and showed the characteristic appearances of an old tubercular process. Such intense congestion, and so acute a pneumonia were suggestive features in the specimen.

Structure of Pus Corpuscles.—Dr. Charles Heitzman exhibited under the microscope pus corpuscles showing the reticulum of living matter, and also showed a photograph taken by Strycker with the electric microscope showing this structure.

A Dermoid Cyst.—Dr. George C. Freeborn presented gross and microscopic specimens taken from such a case. He exhibited one half of a dermoid cyst which had been removed by laparotomy from a woman, aged thirty. The cyst had very thin walls, and was completely filled with a mixture of sebaceous matter, hair, and desquamated epithelium. The interior of one-half of the cyst wall was perfectly smooth, and he was puzzled to find the source of the large quantity of sebaceous matter until he discovered in the other half of the cyst wall a small papillary growth growing into the lumen of the cyst. On microscopical examination it was found to be a mass of modified skin. Resting upon the cyst wall was normal subcutaneous tissue, containing sweat glands, nerves, vessels, etc., and nearer to the apex of this mass the skin was much modified, the sebaceous glands predominating. The history, so far as it could be obtained, was that the tumor had been first noticed about six years

ago, and that the growth since then had been slow. The white sebaceous matter was the product of this small piece of modified skin which had been attached to one side of the cyst wall.

The Society then went into executive session.

Correspondence.

MEDICAL CANNIBALISM VERSUS PROFESSIONAL HONOR AND PERSONAL DIGNITY.

To the Editor of the Medical Record.

Sir: The two articles recently published in the Medical Record, entitled "Medical Cannibalism," and "Should a Poor Man Study Medicine?" are worthy of a careful consideration. The term "Medical Cannibalism" may possibly seem, to some of our professionally well-meaning brethren, slightly harsh, but when we recall their jugglerries and wire pulling tricks, employed solely for the purpose of individual gain, or self-aggrandizement, we behold not only ample justification for the use of the words, but sincerely regret that their iniquitous motives cannot be seen by all mankind

What care these base cannibals that human life falls a prey to their legerdemain, or that the sufferings of mankind are increased instead of being diminished? The editor of the Medical Record has directed our attention, in an article headed "Should a Poor Man Study Medicine?" to the fact that medicine formerly stood on a higher plane. Then a thorough knowledge of medicine was the great essential to individual success, and afflicted humanity was the recipient of its power; but to-day the aspirant for place must be a not over-sensitive "hustler." We regretfully admit the truth of all the statements made in these articles, and at the same time feel constrained to add, that not even one-tenth of the crimes committed by medical cannibals are here brought to light. Their homicidal policy has reduced the gross amount paid for medical attendance in some of our large cities, during the last thirty years, more than fifty per cent., and during the same period it has unquestionably proportionally increased the mortality and human suffering in their clientèle. This is the dark side of the medical profession of the present day. The medical cannibals are merely excrescences on the noblest body on earth. They are of parasitical origin, and found to thrive in certain limited areas of our civilization, while the great body of our profession is still in a perfectly healthy condition, maintaining their professional honor and personal dignity. The practical questions now presented for solution to the honorable members of our profession are: What are the causes of this prostitution? of the development of these semi malignant growths; and likewise, what are the agencies which can be employed for their destruction? I cannot fully agree with the author of the article "Should a Poor Man Study Medicine?" who says: "It is of course, the dispensary evil," although I am perfectly willing to admit that this is one of the degrading agencies. A careful analysis of the subject, however, carries me back, and at the same time suggests the propriety of asking a few pertinent questions bearing on this inquiry. It must, I think, be admitted by all fair men that the immediate cause of this moral degradation has its origin in the inordinate greed and desire for self aggrandizement. The same agency has caused the multiplication of medical colleges in our country far beyond any necessity, has lowered the standard of medicine, and in many instances these institutions are directly chargeable with the parentage of medical cannibalism. How are these institutions commonly originated? Is it not true that in the majority of instances a small medical coterie, or in some cases even an individual physician, takes all the preliminary steps—procuring a charter, etc.? The charter having been obtained, is it not then in order, for the same party who procured it, to select a few of his personal friends, with but little if any reference to their knowledge of medicine, to act as professors? Does not the same party who procures the charter, virtually appoint the trustees for the institution? Are there not well-known institutions organized as stock companies, where the appointment of the professors is solely dependent on the amount of stock the applicant will purchase? Are not many of our hospitals, ostensibly established for the preservation of human life and the relief of human suffering, placed under the control of incompetent physicians and surgeons—medical cannibals—who by their legerdemain secure from the governing boards these coveted plums? Is not the same question equally applicable to the regularly organized dispensaries with their governing boards? Why, then, does the author of "Should a Poor Man Study Medicine?" when speaking of the evils which beset our profession, remark "It is, of course, the dispensary evil? The profession is not overcrowded—that is to say, it is not overcrowded with good men—but the competition with the dispensaries is too great for most men to struggle against with any hope of success."

The homicidal policy, "or Medical Cannibalism," is therefore justly chargeable to the corrupt management of medical colleges, hospitals, dispensaries, and likewise a scarcely less potent agency found in many of the so-called beneficiary societies, where the chief object of the organization seems to be to procure medical attendance and medicines without adequate payment. I have now directed attention to some of the most potent agencies in the prostitution of the medical profession. This has been a comparatively easy task, but is it possible to suggest a remedy which will banish the parasitical growth? The destruction of these semi-malignant excrescences requires that the remedy should be applied to the disease wherever it is found. It will not do to spare the rich and influential, while we torture the poor, friendless miscreants.

Frail humanity finds comfort in pointing to the moral degradation of others, especially when violence has been done to an individual's conscience, and the higher the worldly position of the associate criminal, the greater is the satisfaction afforded the "tender-foot." It is true that this sort of self commiseration does not amount to a moral, or even logical, vindication of a criminal or wrong action; but, nevertheless, we are familiar with the effect of a bad example on even those who desire to act justly. We still remember the verse learned in our boyhood days:

> "Vice is a monster of so frightful mien,
> As to be hated needs but to be seen.
> Yet seen too oft, familiar with her face,
> We first endure, then pity, then embrace."
> —Pope's Essay on Man.

It is quite evident that the proper *esprit de corps* is largely wanting among medical men in some parts of our country. How can this be gained? Much could be advantageously done in this direction by the professors in our best medical colleges, if they would direct the attention of their students during their lectures to the importance of maintaining the honor and dignity of our profession. In this manner the proper *esprit de corps* would be soon established, and the young physicians departing from the college halls would not seek the advice of shopmen and others of similar ilk, in regard to the best methods to be employed to obtain a practice. If this course should ever be adopted, I shall then expect to see the profession rise above the level of laborers and shopmen, instead of occupying the lower plane. The Medical Record has already directed against this homicidal party one of the most potent agencies known to the present age. The medical press wields a power, in the profession, second to none other in the land. Therefore it is hoped that every reputable journal will soon join in this grand work of reformation. This field promises more, even in the way of saving human life and the relief of human suffering, than the much discussed topic of Koch's lymph.

X. Y. Z.

IS IT DANGEROUS TO MAKE LOCAL APPLICATIONS IN CHRONIC ENDOMETRITIS?

To the Editor of the Medical Record.

Sir: I have read with a great deal of interest the various discussions on the treatment of chronic endometritis by the gynecologists of to-day; and from what I can gather from them the majority condemn any local applications, such as carbolic acid, tincture of iodine, etc., to the endometrium for the cure of endometritis.

They not only condemn it, but say that many cases of pyo-salpingitis and other troubles arise from this treatment. The sound, too, has come to be a dangerous instrument, and carries death and destruction with it.

I have been treating this disease for a good many years with topical applications to the endometrium, and I have been so fortunate as not to produce the various troubles that I now see so often follow such a course of treatment. And not being able always to locate exactly the position of the uterus, I have not hesitated to use the sound without disastrous results following its introduction into the uterine cavity. I have had patients under treatment for this disease whose description of their condition, when they came, was pitiable to listen to. And those same patients have left me feeling like they were new beings, with a relish for life and its surroundings, and free from all uterine discharges and backaches.

I have had them in some instances to come thirty and forty miles on the railroad, and return the same day, after having an application made to the endometrium. This I do not think a safe course to pursue, and would never advise it. But my experience has taught me that there are uteri you can take liberties with. Some are excessively sensitive, and, with such, a powerful caustic application might light up an acute inflammation and produce a pyo-salpingitis and make an invalid for life unless the tubes were removed.

Have our women changed so much in twenty-five years that treatment which was considered safe and reliable at that time is now not only rash and dangerous but should be totally discarded? I have at the present time patients under treatment who tell me they have improved wonderfully and feel well, who were never free from aches and a tired feeling when they came to me for treatment. Can this be only their vivid imagination? And does it, too, arrest the leucorrhœa? Will it bring back ruddy cheeks with the glow of health? I have seen this produced in these patients, and I had attributed it to the local treatment, because in some instances I gave no constitutional treatment whatever.

I have a profound admiration for some of the gynecologists of to-day, and no one would give them more hearty applause for their brilliant achievements than I. In their skilled hands deeds have been accomplished that were undreamed of many years since. I honor them for the lives they have saved and are daily saving by their skill. But a fact established by a competent witness is not to be despised even in this day of great things, and there are many competent who will, I know, substantiate what I have said.

Yours truly,

W. H. Johnston, M.D.

Birmingham, Ala.

Persistent Reflux of Bile into the Stomach. From clinical observations on this disorder Dr. Weil has been led to formulate the following conclusions: 1. There exists a grave malady of the digestive organs, in which there occurs a permanent and abundant reflux of bile into the stomach. 2. This morbid symptom is essentially due to a deviation in the direction of the duodenum. This duodenal displacement is not dependent on any organic lesion, properly so-called. 3. Mechanical measures or surgical interference are necessary to re-establish the normal condition of things.—*Lyon Médical.*

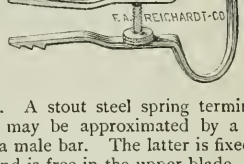
New Instruments.

A MODIFIED INTERDENTAL PRY.

By CHARLES A. POWERS, M.D.,

NEW YORK.

Three cases of fibrous anchylosis of the lower jaw, suitable for stretching, have been under my care during the past year, and in each I found it difficult to effect this by means of the ordinary oval specula, in which separation of the blades is effected by force applied through a ratchet or screw. Pressure thus exerted is inelastic, and it is difficult to finely adjust it. The accompanying cut illustrates a simple device which has proved very satisfactory



in my hands. A stout steel spring terminating in two blades which may be approximated by a female screw travelling on a male bar. The latter is fixed beneath the lower blade and is free in the upper blade. When introduced, closed, between the teeth, separation to any desired extent may be effected by unscrewing; the force thus exerted will be elastic and less painful than when the blades are directly screwed apart. I have found it useful to allow the patient to employ the instrument at home, several times daily, each time releasing the blades a trifle more than at the previous sitting.

Army News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from February 15, 1891, to February 21, 1891.

Byrne, Charles C., Lieutenant-Colonel and Surgeon. By direction of the Secretary of War, is relieved from duty at Fort Sam Houston, Tex., and will report in person to the Commanding General, Department of the Columbia, for duty as Medical Director of that Department, relieving Colonel Bernard J. D. Irwin, Surgeon. S. O. 36, par. 6, A. G. O., Washington, D. C., February 13, 1891.

Irwin, Bernard J. D., Colonel and Surgeon. By direction of the Secretary of War, on being relieved by Lieutenant-Colonel Byrne, will proceed, via San Francisco, Cal., to St. Louis, Mo., and report in person to the Commanding General, Department of the Missouri, for duty as Medical Director of that Department, relieving Colonel Charles Page, Assistant Surgeon-General. S. O. 36, par. 6, A. G. O., Washington, D. C., February 13, 1891.

Page, Charles, Colonel and Assistant Surgeon-General. By direction of the Secretary of War, on being relieved by Colonel Irwin, will report in person to the Commanding General, Division of the Atlantic, for duty as Medical Director of that Division. S. O. 36, par. 6, A. G. O., Washington, D. C., February 13, 1891.

The Moscow Pathological Institute has already received 10,000 roubles from the heirs of the late Dr. Kunin; 5,000 roubles from Baron L. Knoop, and 2,000 roubles from Messrs. Junker & Co., bankers, for the improvement of its scientific equipment.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending February 21, 1891.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	9	3
Scarlet fever	185	30
Cerebro-spinal meningitis	2	6
Measles	367	18
Diphtheria	115	30
Small-pox	2	0
Varicella	13	0
Pertussis	2	9
Croup	0	0
Mumps	0	0
Rötheln	0	0

New York's Insane: An Abstract of the Second Annual Report of the Commission in Lunacy.—The Second Annual Report of the New York State Commission in Lunacy has just been issued, and at this time, when the State care of the insane is so prominently before the people and the Legislature, it is an exceedingly interesting volume. It is a comprehensive review of the work done by the Commission, and its perusal will leave few disinterested opponents to either the Commission or State care of insane persons. On October 1, 1890, the whole number of committed and registered insane (the Commission deals with no other) was 16,002; the number of asylums, public and private, 30; the total cost of the asylums, together with grounds and equipments, up to October 1, 1890, was $16,291,600.37; the number of persons employed in the care of the insane, 2,707; the total receipts of the institutions for the past year, from all sources, were $3,157,000. The figures show the department to rival in importance the canals, schools, and State prisons. Nevertheless it is the least centralized as to government. At present the government is vested in boards of trustees of no universal size, they make separate reports to the Legislature, the State Commission and the State Board of Charities clash, and, in short, there is very little, if any, system. With such a state of affairs no intelligent line of policy or action can be followed. The Commission suggests two plans for a change: First, the adoption of a system similar to the one prevailing in the normal schools, viz., the appointment of local boards for each institution by the Commission, responsible to it for their action; or, secondly, the system that controls prisons and canals, through the assumption by the Commission of the general government of the institutions. If the present system should continue, the local boards should be smaller and of the same size; the members should serve a definite term and hold no other federal office; reports should be made to the Commission, which would make one general report to the Legislature; there should be a unification of salaries of officers and employees, unification of the grades and salaries of the physicians; receipts of State hospitals should be paid into the State treasury, and specific appropriations made therefrom; general supplies should be purchased upon contract. The Commission has already established a uniform method of bookkeeping, registration, keeping of histories, etc., and consequently, for the first time within the thirty years' existence of State institutions for the insane, statistics will be reliable and useful. Another good recommendation is the establishment of a pathological laboratory. In the judgment of the Commission greater attention should be paid to the study of the morbid anatomy and pathology of insanity than is now paid. There is abundant material which is not now utilized. Though a pathological laboratory was many years ago established in the Utica State Hospital, the report is authority for the statement that, as at present organized, it produces no results of scientific value in the line of original work. The Commission recommends that a pathological department be maintained at one of the State hospitals; that it be equipped with every necessary scientific appliance, and that the State provide such liberal compensation as will command the services of a pathologist of the highest scientific attainments, who should devote all his time to the work, and publish the results of his labors at stated intervals for the benefit of the State, in order that the State may have all the light which scientific research can throw upon the causation, development, and pathology of insanity.

The subject of the State care of the insane is exhaustively treated. The horrors and the abuses of the old system when "chronic" cases were turned over to poor-house care are shown up, and simply refute all opposition. No one is justified in terming a case of insanity chronic, with the idea that it is incurable, as there are recoveries after years have elapsed. The very word chronic, with its attendant pauper life, tended to prevent recovery. Dr. John P. Gray and most great authorities have been opposed to the theory of incurability. As the system of county care depended entirely upon the incurability of insanity, it was fallacious. As a rule, county insane were visited tri-weekly by untrained practitioners, there were no facilities for care or treatment, and consequently results were of necessity bad. The patients deserve better treatment, and now that the law for State care is passed, sufficient money for its enforcement should be appropriated. The Commission wants less than $500,000. An interesting portion of the report is that relative to the decrease of insanity in the State. Heretofore the statistics have shown an increase, but these figures were unreliable because of differences in methods of basing returns, and from the fact that former estimates were partially based on opinions of superintendents of the poor. The Commission, however, has established a system of registration whereby records of all commitments and discharges are kept in the offices of the Commission. Hence, time only is required for reliable statistics. These already show a decrease, or rather the amount of increase is declining. At present the registered insane are only about .00266 of one per cent. of the total population of the State. The report says: "This decrease can be accounted for largely by reason of the more intelligent, humane, and skilful treatment which has been furnished in recent years. Every year witnesses a greater number of the insane in proper quarters and under better medical supervision. If insanity is a disease that can be cured by treatment, and of this few pretend to entertain any doubt, then the better the treatment, within reasonable limits, the greater the number of cures. And, in view of all that has been said, the Commission desires to emphasize its opinion that by a continuation of the policy sought to be carried out by the last Legislature the proportion of the insane to the population can be very materially reduced—perhaps as much as twenty to twenty-five per cent. below what it is now." The average length of life of the insane is put at eight years by the report, a reduction from former estimates.

Reproduction of Bacteria.—It has been very reliably determined that bacteria, when placed in the best conditions for their activity, will double their number every hour. In the most favorable circumstances it will then be seen that a single bacterium will, in twenty-four hours, produce 16,777,220 of its kind. In forty-eight hours, from this single source, the number of bacteria would amount to 281,500,000,000, a quantity sufficient to fill a pint measure, all produced in this short time from a single micro organism measuring but $\frac{1}{15000}$ of an inch. Fortunately, these conditions do not often exist. The reproduction of bacteria is opposed by many kinds of forces, and they have a continual battle for existence. In regard to the disease-producing or pathogenic germs, it is important to understand what forces or agen-

cies will retard their multiplication or wholly destroy them. In emergencies chemistry is resorted to and antiseptics employed, but in the proper prevention of disease such emergencies should not be allowed to arise. Sunlight, pure air, and thorough cleanliness are natural enemies to disease germs. They cannot flourish where they have not their proper food, and that is found in dampness, darkness, mould, and filth. Keep the habitation flooded with sunshine and pure air, keep away all filth and dampness and the germs of disease will find no foothold, no nidus in which to breed or food on which to grow. Nature is struggling all the time to keep her domain healthful, and a fit habitation for man, but man shuts out the air and light, contaminates all things about him, and disease is the reward of his recklessness and neglect. There is more health in a sunbeam than in drugs, and more life in pure air than in the physician's skill. The sunlight may fade your parlor carpet, but better that than have disease fade your cheek. The wind may "tan" and "freckle" the face, but it is better tanned and freckled than thin and sallow. Help nature to keep your habitation healthful by allowing her forces an opportunity to operate. There is more health about you than disease. Health is man's natural condition. He has to violate some law before the penalty of disease is inflicted. He can place about him such conditions that disease-germs will invade his system, or he can live amid surroundings so pure that health will bless him both in his freedom from physical ills and in the sweet consciousness of right living.—*Sanitary News.*

"Tetanie" or Arthrogryposis.—The Vienna correspondent of the *Medical Press* writes that Dr. Chvostek read a paper on the relations of the acoustic nerve to cuticle resistance in "tetanie," or as Trousseau preferred to call it, "contracture des nourrices," from its frequency in pregnancy and lactation. The disease is characterized by painful contraction of a group of muscles supplied by a particular nerve—seldom the hips—having different periods of intermission, whose origin is central, though no pathological change can be demonstrated. He put great force on the characteristic symptoms being subjective, and thus belonging to the sensible nerve system. This knowledge of the disease he considered was due to Hoffmann's investigation, who proved conclusively that the sensory nerves, as well as the motor nerves, were hyperæsthesic, or easily irritated by the galvanic or Faradic current. He referred to seventeen cases he had examined in Kahler's klinik, where the hyperæsthesia was present, and disappeared as soon as the spasmodic attacks subsided. He next described the effects of the electric current on the organs of sense, referring more particularly to the acoustic nerve. In all the cases examined he had only fifteen per cent. that gave a normal reaction. There was not only this high percentage of hyperexcitability present, but it was accompanied with a peculiar sound sensation. Schlesinger asked which of Trousseau's phenomena were considered characteristic of tetany? His own opinion was that the facial symptoms were in no way a characteristic sign of the disease, but rather the early manifestations of tuberculosis. This led him to ask if tetany could be present without the cramp attacks, and he related a case in favor of the absence of cramp from a young woman who had paræsthesia and stiffness of the fingers for a year without the attacks, but every other symptom of tetany was present. These cases are not uncommon, as Frankel-Hochwarth has applied the term "tetanoid" to obviate the difficulty. Neusser related a case of tetany with a peculiar mixing of symptoms; hyperæmia of the optic papillæ, transitory and alternating swelling of the nasal muscles, laryngeal spasms, and finally polyuria. It is true there are cases of tetany where we can easily locate the disease to the medulla oblongata, but there are others with a psychological combination, frequently confirmed by the autopsy, in finding the brain hyperæmic, ecchymosed, as well as the meninges of the spinal cord, that would force us to the conclusion that the disease is a systemic one, and that its origin may be located in the spinal coverings, the terminal points of the central nerve system, or in the periphery of a nerve-trunk, as it occurs in tabes generally.

Cholera in Japan from 1884 to 1887.—Although no year since 1877 has been free from cholera, there has been considerable difference in the virulence of the disease. The year 1884 was characterized by the mildness of the form prevailing. The number of cases, too, were less than in the preceding year. This dreadful malady made its appearance at Nagasaki toward the end of July, 1885. It raged with great severity in different localities of Kyūshū for over a month, and then made its way eastward. Though suppressed for a time, it made its appearance again in 1886, when it assumed the form of a violent epidemic, spreading far and wide, reducing the country to a state of misery that had not been known since 1877. Such a degree of severity may be attributable to the development of the poisonous germs that lay dormant in the previous year. Subsequent to the first outbreak of cholera this year, the local authorities had been most punctual in inspecting travellers by land and sea, and had endeavored by every possible means to suppress the disease, but in spite of these efforts it spread over all parts of the empire. During the four years from 1884 to 1887, there were 171,879 cases of cholera and 118,809 deaths; 166,456 cases of enteric fever and 36,261 deaths; 11,041 cases of diphtheria and 5,600 deaths; 16.473 cases of typhus fever and 2,835 deaths; and 127.578 cases of small-pox and 32,382 deaths. The above statistics show that the cholera cases far exceed those from any other infectious or contagious disease.—*Abstract of Sanitary Reports*, vol. v., No. 35, 1890.

Sterilizing Milk by Peroxide of Hydrogen.—Peroxide of hydrogen has been used to disinfect water. Dr. Heidenhain says that it may also be useful for sterilizing milk, although he is not able to say as yet how the digestibility of milk so treated will be affected. He finds that children take it readily, and that the peroxide, mixed in the proportion of five or six tablespoonfuls to one quart of milk, does not cause the milk to curdle or to become sour, even when it is left in a room at summer temperature for forty-eight hours, the slight acid reaction with litmus paper being due to the action of the disinfecting material and not to the production of lactic acid. The cream that rises is so sweet that butter cannot be made from it for a very considerable length of time.—*Centralblatt für Bakteriologie.*

Religious Advertising of Quack Remedies.—Some years ago the *Northwestern Christian Advocate*, a religious weekly paper, in obedience to public sentiment, systematically excluded so-called patent medicine advertisements from its columns. This was done with considerable ostentation, the editor calling attention to the matter of financial sacrifice involved, and for this reason urging an increased subscription from the church. It is to be regretted that within the last few months, however, this eminent church organ has returned to its bad habits, and is printing advertisements of patent medicines without stint. This action is made more noticeable by the appearance lately in the *Advocate* of two most excellent articles upon the subject of higher medical education. The argument was that a rigid examination should be the test of fitness to practise medicine. Have the people whose wares his paper is trying to foist upon the public passed this rigid examination? Can they show any reason that would satisfy a much less exacting person than the *Advocate* editor would have us believe he is, why they should not be restrained from hawking their nostrums through the newspapers? These are pertinent questions.

Two Cases of Death from Hydrophobia have recently been reported; one occurred in Connecticut, and one in Indiana.

Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 39, No. 10.
Whole No. 1061.

New York, March 7, 1891.

$5.00 Per Annum.
Single Copies, 10c.

Original Articles.

INOCULATIONS WITH PROFESSOR KOCH'S "TUBERCULIN."[1]

By A. JACOBI, M.D.,

LATE PRESIDENT OF THE NEW YORK ACADEMY OF MEDICINE; CLINICAL PROFESSOR IN THE COLLEGE OF PHYSICIANS AND SURGEONS, ETC.

(Continued from page 254.)

A CHILD nineteen and one half months of age was inoculated in the very last stage of tubercular meningitis on December 12th, with one half of a milligramme, on the 13th, with one milligramme of "tuberculin." There were no changes in her hopeless condition attributable to the injection.

E. R——, boy aged eleven, admitted October 23d, with tubercular peritonitis and ascites. Disease began six months previously, with frequent but moderate pain, but no fever or rigor. Convolutions of intestines are easily distinguished (adhesions). Constipation. Never a temperature beyond 99.5° F., never one below 98° F., until December 26th, when the first milligramme was injected at 6 P.M. Temperature at 9 P.M was 97.8° F.; pulse 80. At 12 M. on the 27th, 97° F.; pulse 88. At 3 A.M., 101° F.; pulse 100. At 6 A.M., 102° F.; pulse 120. At 9 A.M., 103.3° F.; pulse 114. At 12 M., 101.6° F.; pulse 116. At 3 P.M., 101.8° F.; pulse 112. At 6 P.M., 102.2° F.; pulse 116. At 9 P.M., 100° F.; pulse, 108.

The first temperature of 99° F. was reached at 3 A.M. on the 28th, at noon it was again 97° F., still with a pulse of 106. Second inoculation of 1 milligr. at 6 P.M.; only rise (101.2° F.) at 9 P.M. On the 29th at 6 P.M. 2 milligr., also on the 30th. No rise, several times 97° F. On January 2d, 3 milligr. at 6 P.M. At 9 and 12 P.M., and at 3 and 6 A.M. on January 4th the temperatures were 97.8° F., 97.4° F., 97-98° F. No rise.

January 4th, 6 P.M., injection of 3 milligr. Temperature at 9 P.M., 96.5° F.; at 12 M., 97° F. 3 A.M. of the 5th 99.4° F.; 6 A.M., 100.3° F.; the only rise. That night temperature for many hours was 97°, 96.2°, 96.9° F.

January 6th at 6 P.M., with a temperature of 97.3° F., 5 milligr. were inoculated. For twelve hours afterward temperature was between 97° F. and 96.2° F. No rise except once, to 100° F., at midnight of January 8th. This was the only time when the pulse was as low as 70.

On January 10th 10 milligr. were injected, temperature sank again to near 96° F., as heretofore, rose and fell, once at midnight of the 13th to 95.8° F., with a pulse of 62.

On January 16th with a temperature of 97.2° F., at 6 P.M., 10 milligr. were injected. The first effect was again a fall to 97.8° F., and 97.2° F.; then, at 3 A.M., a rise to 102° F. and pulse, 116. At 6 A.M., 99.4° F.; pulse, 108. At 9. A.M., 101.2° F.; pulse, 120. At 12 M., 102° F.; pulse, 122. At 3 P.M., 99.6° F.; pulse, 108. At 6 P.M., 100.6° F.; pulse, 130. After that the temperature fell, with the exception of midnight the 19th, when it was once 101° F. It then fell a few hours, rose again in the morning hours of the 20th and remained twelve hours from 100.2° F., to 101.7° F.

On the 23d, about noon, I made an inoculation of 20 milligr. At 6 P.M temperature was 104.4° F., with a pulse of 112. All next day it remained above 100° F. He left the hospital on the 26th. During all these weeks he felt very comfortable except when under the influence of high temperatures, and his general condition improved. Still, it had improved before the lymph treatment was begun; his strength increasing and ascites diminishing.

M. C——, aged five years and six months. Tubercular peritonitis, ascites. Was said to have been sick a week with tumid abdomen and loss of appetite. For some days after admission the highest afternoon temperature was 100.5° F., morning temperature as low as 98.4° F. First inoculation of half a milligramme at 8.45 P.M. on January 3d. Within five hours the temperature was 103.2° F.; pulse, 148; respiration, 30. The temperature rose to 104.5° F., and the accompanying symptoms became so alarming that phenacetin and brandy were administered several times. Not before the 6th was the temperature again below 100° F. After the next inoculation reactions would always show themselves, but the effect grew less gradually, though the doses were increased from one half to 2 milligr. Very suddenly and unexpectedly, eighteen days after the treatment was begun, the temperature rose again to 104.6° F., with corresponding rise of both pulse and respiration. No particular change in the three weeks she was in the hospital.

The following are a number of cases of pulmonary tuberculosis in different stages:

Mrs. R——, twenty-five years of age. Admitted December 17th. Singing lessons from seventh to seventeenth year; hæmoptysis at seventeen; acute pulmonary complaint two years ago and a year ago. For eight years occasional dyspnœa, cough, and expectoration. Left upper lobe, extensive dulness and coarse respiration; right lower lobe, local dulness and rhonchi. Bacilli.

December 18th. Injection of 1 milligr. at 6 P.M.

December 19th. Slight rigor in afternoon, with temperature of 101.3° F., and perspiration; 9 P.M., 102° F. (highest temperature). Pain in site of inoculation. First normal temperature returned December 21st at 9 A.M. At 12 M., 1 milligr. After twenty-four hours, December 22d, 9 A.M., 100° F. Spleen enlarged. Highest temperature at 6 P.M.; at 9 P.M., below 100° F. Headache all day. December 23d some cough. At 12 M. temperature 100.2° F.; 6 P.M., 100.6° F.

Injection of 2 milligr. at 7 P.M. on December 24th; 2 milligr. the 26th; 3 milligr. the 29th; 4 milligr. the 31st; also the 2d, 4th, and 6th of January. The highest temperature on the 25th was 101.4 F.; the 27th, 102° F.; the 30th, 101.2° F.; January 1st, 100.7° F.; January 3d 103° F; the 5th, 102.4 F.; the 7th, 99.4° F. These temperatures were reached in from sixteen to twenty-two hours after inoculation. During all this period her general discomfort, local pain, cough, and perspiration became lessened.

Inoculations were made on the 8th, 6 milligr.; the 9th, 7 milligr.; the 11th, 8 milligr.; the 12th, 9 milligr.; the 14th, 10 milligr; the 16th, 11 milligr.; the 17th, 13 milligr.; the 18th, 13 milligr.; the 21st, 23d, and 24th, each 15 milligr.; the 25th, 20 milligr.; and the 26th, 25 milligr. During all this time her general condition improved; her temperature was mostly between 98.5° and 99.5° F., and seldom rose to 100.2° F.

John H——, aged twenty-eight, admitted January 15th. Tuberculosis pulmonalis et laryngis. Family history of

[1] Read before the Medical Society of the State of New York, February 4, 1891.

phthisis, of which a brother and a sister have died. Hoarseness, dry throat, and occasional hæmoptysis more than two years ago. Permanently sick for a year, cough, some expectoration in the morning. Both increased three weeks ago. No pain, fever, or night-sweat. Short breath on exertion. Condition fair. Some retraction of left supra- and sub-clavicular region, dulness, crepitant râles down to third rib; posteriorly the same. About the middle of thorax some bronchial or prolonged expiration, a similar condition on the right side on percussion and auscultation.

Inoculations on January 15th, of 1 milligr.; January 16th of 2 milligr.; 17th of 3 milligr.; 18th of 4 milligr.; 20th of 6 milligr. had no visible effect whatsoever, the rectal temperature remaining at 99.6° F.

On the 21st, 10 milligr. were injected, with the result of raising the temperature to 103° F. within five hours and producing much cough. On the 25th, 5 milligr. were injected, the 25th, 10 milligr.; the 26th, 15 milligr. with no response on the part of temperature. It is probable that the dose of 10 milligr., if it had been the first, would have had the same result, and that this effect would have justly been claimed as pathognomonic for tuberculosis; though a later dose of 1½ centigr. did not in the least show the same effect. Six milligrammes, however, elicited no temperature response; while other cases respond to smaller doses so readily that, if larger doses were given to them, danger might be incurred. Thus for instance:

E. V——, aged twenty-five, with undoubted pulmonary tuberculosis, dulness, bronchial respiration, purulent expectoration, bacilli, and night-sweats had 1 milligr. injected on January 25th, with no result; another on January 26th, with an increase in temperature, which reached its maximum, 101.8° F., after fifteen hours. In this case it is remarkable that the second effective dose was not larger than the first which refused its effect. Still, it is possible that the reaction following the first inoculation occurred only after more than a day after—in accordance with some other observation of the same kind.

G. P——, aged thirty-two, admitted December 11th, with the diagnosis of incipient tuberculosis of the lungs. Had dulness and crepitant râles over clavicle and supra-scapular region of the right side. Respiration over fossa supraspinata diminished. Sputum not copious, but contains bacilli. Weight, 127 pounds.

Inoculation of 2 milligr. on December 12th; 3 milligr. the 13th; 4 milligr. the 14th; 4 milligr. the 15th. Temperature rose to 101.6° F. in twenty-two hours. Injection of 5 milligr. on the 17th with no visible effect. Patient weighs 137 pounds on the 19th. Injection of 6 milligr. on the 20th was followed by a temperature of 102.4° F. on the 21st; 6 milligr. on the 23d by 101° on the 24th; 7 milligr. on the 25th by 101.8° on the 26th; 7 milligr. on the 28th by 101.2° on the 29th; 9 milligr. on the 30th by 101° on the 31st.

On January 1st no inoculation, and no temperature above 100° F. (This but once.)

On the 2d of January a new start was taken with 2 milligr., and thirteen inoculations were made up to the 19th, when the treatment was discontinued. Meanwhile the doses had been gradually increased to 10 milligr. But twice was there a temperature as high as 100° F. during that time. The general condition improved from day to day, and about the end of the month the patient was discharged in good health, without cough, and without any râles and any dulness. Recovery (?).

J. W. B——, aged twenty-five, tuberculosis pulmonum. Father died of consumption; patient had symptoms these several years. Bronchial respiration over upper lobes both right and left posteriorly, also slightly over the left lower lobe; loud bronchial respiration over left upper lobe in front; moderate dulness over total right side. From December 20th to the end of January, when she left, twenty-two inoculations were made, ranging from 1 to 15 milligr., the latter dose being given four times. The first rise of temperature occurred on December 26th, after a dose of 3 milligr. on the 25th; the first temperature of 102° F. was reached January 10th after a dose of 7 milligr. had been given twelve hours previously. The same was reached again on January 26th, sixteen hours after the fourth dose of 15 milligr. (the first on January 20th) had been administered; also on January 27th, sixteen hours after 15 milligr. on the 26th. It must be added, however, that after the temperature had come down to 98° F. in the early morning hours of the 28th, it rose to 102.9° F. in the afternoon. Thus it remains doubtful whether the higher temperatures of the afternoon (mostly sixteen hours after the inoculation) were due to the injection or to the pulmonary process. For when the patient left about the end of January, her claim of feeling improved was not justified by either increase of weight or any appreciable change in her lungs.

M. P——, aged twenty-one, admitted December 12th. Tuberculosis pulmonum et laryngis. Color of vocal cords grayish red; edges eroded, fossæ Morgagni ulcerated, posterior wall of larynx slightly thickened. Extensive rhonchi over chest, dulness below right clavicle. Bacilli numerous. Inoculations were made, December 13th, 1 milligr.; 14th, 2 milligr.; 16th and 18th, 5 milligr. each; 21st 6 milligr.; 23d, 25th and 28th, 5 milligr. each. Reactions were quite marked after the first inoculation, though they required nearly a day for their maximum. Cough, expectoration, and temperature increased, larynx became sensitive. At no time was the temperature anything like normal. Examination on December 26th revealed: No change in larynx, complete aphonia; over left upper lobe dulness, coarse respiration, moist and sibilant râles, over apex cavernous breathing; over almost the whole right lung bronchial respiration, and moist and sibilant râles. As his condition was so much impaired, I hesitated giving the same doses, being under the impression that possibly the injection might add to his high temperatures and the extension of the morbid process. Therefore after waiting five days, during which the general condition and the temperature of the patient showed no difference from former observations, I injected 2 milligr. on January 2d. The last injection of this new series, which consisted of fourteen inoculations of from 2 to 5 milligr. was made on January 20th. No perceptible effect. Death on January 25th.

M. A——, aged nineteen, admitted January 7th. Pulmonary tuberculosis. Began with a pleurisy, October, 1889. Languor, cough, fever, night-sweats last spring, expectoration with bacilli, but seldom in bed. Right upper lobe has prolonged expiration and sibilant râles. Left, normal. Posteriorly, over right apex, wheezing and moist râles. Some dulness over right upper lobe, anteriorly.

Inoculations were begun January 9th, from the 9th to the 19th. They were repeated daily, commencing with 1 milligr., and gradually rising to 9 milligr. From January 21st to 29th eight inoculations were made, each of 10 milligr. During all this time no improvement took place; she coughed but little, with exceptions, perspired, felt often languid, expectorated some, slept well most of the time. During the first week (sixth day) the temperature reached 102° F.; but once, toward the end of the second week, it reached 102.5° F., touched 104.5° F. several times in the third, and more in the fourth week. Toward the end of the month the temperature fell below 103° F. Meanwhile, though the patient's râles would increase from time to time, the dulness did not extend; still, her general and local condition did not improve.

A. H——, aged twenty-one, admitted December 29th; tuberculosis pulmonum. Had pneumonia a year ago; coughed almost all the time since with the exception of some months passed in the mountains. Dulness over both apices (mainly left), both anteriorly and posteriorly. Rhonchi over both upper lobes, in some places during cough only.

Inoculations: December 31st, ½ milligr.; January 1st,

1 milligr.; January 3d to 7th, four inoculations of 2 milligr. each; January 9th to 25th, a daily dose of 3 milligr., with the exception of the 14th, 19th, and 22d; January 26th, 4 milligr.; 27th and 28th, 5 milligr. each; 29th, 6 milligr.; 30th, 7 milligr.; 31st, 8 milligr. After the smallest doses the temperature would rise, sleep was restless, there were headaches and mild chills, also much perspiration, also palpitation. The temperatures till January 22d varied from 101° to 103.5° F.; in very rare instances only would they fall below 100° F. In the last week of the month, however, most observations showed temperatures below 100° F., many below 99° F., very few as high as 101° F. About that time her general condition, which had not been good at all, improved very much indeed.

I——, a girl aged five, with undoubted pulmonary tuberculosis, slight dulness over left lung both anteriorly and posteriorly, and higher pitch in right side than left, but no râles, had her first inoculation of 1 milligr. on January 6th. The case is remarkable for its punctual reactions. Within four hours, once after two, the temperature would rise without affecting either pulse or respiration after the first two injections. Only with the third, and every subsequent injection, both pulse and respiration rose correspondingly. The reactions lasted about twenty-two hours, a little less than one-half of this time being spent on the rise. Respiration, with a single exception, returned more readily to the normal than the pulse, which remained accelerated for some time. Still, when a sufficient time was afforded, temperature, pulse, and respiration returned to the original condition previous to any inoculations. Not improved in three weeks.

S. S——, aged thirty two, pulmonary tuberculosis, with infiltration of both upper lobes. The first injection of 1 milligr. appeared to have but little effect, the third of 3 milligr. given two days afterward increased his temperature within six hours. The maximum was 101.8° F., and was reached twenty-four hours after. Normal temperature on the following day (January 14th). On the 15th 3 milligrs. with rise of temperature within twelve hours; maximum of 102.6° F. within eighteen hours; at the same time prespiration, cough, great discomfort. On the 18th 3 milligrs. were again given without any such effect. Five milligrs. on the 20th increased the temperature within six hours, to a maximum of 103.9° F. within nine hours. The same dose on the 23d had no similar effect. But when given on the 25th it had again the effect of raising the temperature within seven hours, with a maximum of 103.8° F. within nineteen hours. It appears, therefore, that the same dose may lose its effect, and recover it at a later time, the intervals between the several administrations being the same, viz., two days.

F. T——, aged thirty-six. Pulmonary tuberculosis. Had fifteen injections from December 28th to January 31st, in doses of from one to eight milligrammes, with but little reaction and little effect. The smaller doses appeared to prepare the patient for readily tolerating the larger ones.

J. F. L——, aged thirty-nine. Pulmonary tuberculosis. Had a pneumonia nearly two years ago, and never lost his dyspnœa. For five months past, cough, expectoration, emaciation, night-sweats, bacilli. Over upper halves of both upper lobes, dulness, and crepitant râles. Thirteen inoculations between December 17th and January 6th, amounting to from one to twenty milligrammes. The latter dose was repeated on the 16th and the 20th, a few days after he left the hospital. The brief observations permitted resulted in the following: The third inoculation (first of 3 milligr.) was the first that raised the temperature to 102.8° F. at 9 A.M. and 102.5° F. at 12 M., fourteen and seventeen hours after the inoculation. Nearly the same temperature was reached three and six hours after the next inoculation of 5 milligr. It was never reached again, either spontaneously or after increased doses. Indeed there appeared a gradual downward tendency from day to day. The general condition certainly improved, and he gained a few pounds.

A. B——, aged thirty-three; admitted November 25th. Pulmonary tuberculosis. For a year and a half past, cough, four attacks of hæmoptysis, expectoration, night-sweats, emaciation, hoarseness. Bacilli. Family history negative. Supra- and infra-clavicular regions retracted. Dulness over both apices, also diminished respiration and some rhonchi. Over right lower lobe, posteriorly, dulness and bronchial respiration. During December, fifteen injections of from 1 to 10 milligr.; in January, seventeen of from 2 to 50 milligr. After the first inoculation the patient coughed much, both cough and expectoration grew less after the second, and remained so. At no time was there a temperature which had to be attributed to the action of the lymph; it seldom reached 101° F., then only in the afternoons (about a day after the injection) and for a short time. Within a week the patient felt better. Still, the examination of his chest made on December 26th revealed no changes except the disappearance of the rhonchi. During January, temperature almost normal; but little cough and expectoration. Increase of weight in one month, nine pounds. General improvement.

A. H——, aged thirty-nine, admitted December 4th with dulness over both apices and crepitant râles, and bronchophony over right apex. Bacilli. From December 13th to the end of the month thirteen injections were made of from 1 to 10 milligr. During the course of January sixteen injections were made, from 2 with rapid increases to 60 milligr. The first injection of 1 milligr. raised the temperatnre of 98.5° F. to 105° F. within an hour and a half, with intense perspiration, followed by a rapid fall afterward to 99° F. Maximum temperature in the afternoon of the 12th, 101.7° F.; of the 13th, 101.2° F. At that time 3 milligr. were injected, with no increase of temperature or any other signs of reaction. No such temperature was ever reached again, and the patient felt more comfortable from day to day. Still, the physical condition of December 26th revealed dulness posteriorly over left upper lobe, with considerably increased voice. On the right side bronchophony posteriorly over upper lobe, dulness over the two upper lobes. Temperature remained normal throughout January, weight increased by twelve pounds, cough became less, also expectoration, crepitant râles disappeared, dulness remained. Great improvement in the general condition.

In some cases of tuberculosis small doses of the lymph appear to reduce the temperature without giving rise to any other symptoms except the sensation of comfort. Patients will apparently not react on the administration of 1 milligr., then the dose is increased from day to day, slowly; the later doses will not affect the system any more than the first; indeed, 10 milligr. the tenth day is attended with the same lack of consequences as 1 milligr. given the first day, in accordance with the fact that when a serious reaction is experienced after a single milligramme has been administered, very much larger doses are soon required to accomplish the same end.

A lady, aged thirty-five, Mrs. M——, mother of a number of children, one of whom died a few years ago of miliary tuberculosis, had tuberculosis of the lungs and abdominal lymph-bodies, probably also the peritoneum, these ten years. The abdominal symptoms were very much improved compared with what they were a few years ago. But for years she has expectorated, coughed, was emaciated, formed large cavities in both apices, both of which have diminished in size for a year past, has had numerous attacks of pleuritis and pneumonia, and brings up bacilli in almost every sputum. Besides the extensive cavities she has large areas of dulness and coarse respiration, besides all kinds of rhonchi. Lately she had a severe pneumonia of which she got fairly well. Still, she went on with her old symptoms, and high fever, which required repeated large doses of digitalia and antipyrin.

The first milligramme was injected January 25th while she had a temperature of 101.8 F., which fell as low as 99° F. January 26th it rose in the morning to 100.4° F.

Injection of 2 milligr. at that time. Temperature sank to 98° F. Next morning again 100.4° F. and 3 milligr. Again 100.4° F. and 4 milligr. on the 28th; on the 29th the same and 5 milligr.; on the 30th the same and 6 milligr. in the afternoon. For the first time this week she had a temperature of 100 8° F. in the night through the course of a few hours. The following morning, January 31st, temperature below 100° F.; 8 milligr. at noon. First elevation twenty-four hours after, on February 1st, 100.5° F., rose to 100.8° F., was 100° F. again at 6 P.M., and fell below. Through all this week there was less cough, less expectoration, less perspiration, more appetite and comfort, in spite of the three daily doses of medicine being reduced to one, and that one reduced in size.[1]

A similar observation was made in E. L——, aged nineteen, admitted December 25th. He had been sick in bed seven weeks, his condition had been carefully watched, and temperatures recorded. They were seldom as low as 101.5° F., mostly from 102° F. to 104.5° F., and sometimes higher. Has been reduced to 102½ pounds. Dulness and fine rhonchi, crepitant and sibilant over the left upper lobe, also bronchophony. Over the right upper lobe posteriorly, over large area, dulness, rhonchi crepitant and sibilant, and bronchophony; anteriorly, dulness, bronchial and cavernous breathing, and rhonchi. Bacilli. Had twenty-nine inoculations from December 25th to February 27th, the latter day 5 milligr.; all the rest from 1 to 4 milligr., with a slow increase. On December 27th, the first temperature of 100° F. was reached, the lowest in seven weeks; 99.8° F. on the 28th; 99.4° F. on January 2d; 99° F. on the 3d, 9th and 10th; 98.4° F. on the 14th; 98.6° F. on the 22d. All this occurred while his local symptoms did *not improve*. On contrary his cavity in the right apex is increasing in size, expectoration still copious and bacillary, though more fluid. Lately he has again temperatures of 102° F., and even 103° F., which cannot be taken as the result of lymph-action, but are undoubtedly the outcome of the destructive process, which is not checked. This case shows that the patient may feel very much improved without an actual change in his pathological condition, even while getting worse.[2]

E. A. B— , aged thirty-three, admitted January 3d. Since January, 1890, loss of weight (now 152½ pounds) and strength. For some months past hoarseness. The posterior wall of larynx hyperæmic; left vocal cord unhealthy, will be described later on. No night-sweats. To those who saw him before admission, he looked feverish. Being a doctor, he never took his temperature. Right lung over clavicle: Dulness and during a cough crepitant râles; posteriorly crepitant râles over the whole upper lobe. Left lung: Dulness trifling over clavicle, slightly coarse respiration. Between January 3d and 13th, ten inoculations were made, from 1 to 10 milligr., increasing by 1 milligr. from day to day; on the 14th, 10 milligr.; 16th 17th, 18th, 15 milligr.; 20th, 20 milligr. The injections were made about 7 P.M., the only temperature above 100° F. would be found in the afternoons, the highest ever noticed being 100.8° F., and that only once; low temperatures were observed, down to 98.2° F. On several days the temperatures never reached 100° F. During all this period no bacilli were found, and therefore I stopped the inoculations on January 20th, when the last one of 20 milligr. was made. On that day the highest temperature was 100° F.; on the 21st, 100.1° F.; a single time, the 22d, 100° F.; a few evening hours, the 23d, over 100.8° F. very exceptionally. On that day the sputum, which was always scanty, was again examined, and a large number of bacilli found, many of them broken up as described in *Deutsche Med. Wochenschrift*, No. 46. At 11.10 A.M. 25 milligr. were injected. At midnight the temperature was far below 100° F., and remained so (down to 98 6° F.) until 9 P.M. on the 24th—indeed the first day when there was no increase in the afternoon. On the 24th, at 8.30 P.M., 30 milligr. From 6 A.M. to 9 P.M. the 25th, temperature from 100° to 100.7° F., the first indications of a response such as every healthy person would show. The same occurred after 40 milligr., which were injected at 8.25 P.M., the 25th. Temperature rose, 9 A.M. on the 26th, to 100.3° F., reached 101.4° F. at noon, and was below 100° F. late in the evening. Two days later 60 milligr. were injected with no more marked result.

That case shows conclusively that the lymph did not cause any reaction pointing to the presence of tuberculosis when injected in doses varying from 1 to 60 milligr. The slight responses met with in these high doses may be found in the healthy. Besides, the case is noticeable as one of those in which bacilli may not be found for some time and still be present. The question whether the bacilli were freed by the action of the lymph must be answered in the negative; for there were no marked rhonchi during the period of inoculations, and we have a right to conclude that the tissue surrounding the bacilli nests was not congested and softened by the action of the lymph.

This case is interesting from an additional point of view. On January 8th there was a flat, slightly granulating ulceration of the posterior half of the left vocal cord, paresis of the adductors, the whole mucous membrane quite pale. On the 22d two-thirds of the ulceration had closed, paralytic symptoms improved, the mucous membrane just as pale as before. There was no local reaction at any time after an administration of lymph, all of which shows that not only the general but also the local reaction may fail, but still a local improvement may take place.

In the case of H. C——, aged nineteen, admitted December 15th, similar observations were made, though not so conclusive for the following reason. He had been sick with cough, purulent and bloody expectoration nine months, was emaciated, feeble, and feverish. There were dulness, crepitant and sibilant râles, coarse respiration, bronchial respiration over both upper lobes. Bacilli copious. The first inoculation of 1 milligr. was made on the 15th, the 9th of 9 milligr. on the 25th, with the result of reducing his temperature. He entered with temperature 103° F., which he did not reach again. Indeed, most of his temperatures were below 100° F., once 98.6° F., reached 101° F. but seldom, and were 101.7° F. but twice, and for a short time only. Two days after the first inoculation he slept well in the night, perspired less, cough but trifling, feels comfortable. But after the sixth injection, on the 20th (7 milligr.), cervical and axillary glands and a long string of lymph bodies were found swollen and painful on both sides of chest. On the 26th I stopped the inoculations because those lymphatic glands were increasing considerably, and in spite of the lowered temperatures the general condition of the patient was bad. On the first day when no injection was made, his temperature rose to 102.5° F., the next to 102.4° F., the third, 103.1° F.; the fourth, 104° F.; the fifth, 103.7° F., with general malaise, vomiting, and some albuminuria; the sixth, 103.6° F.; the seventh only 101.7° F.; the eighth, 102.1° F. But there were some temperatures below 100° F., and his general condition was better. the glands also smaller; thus I resolved to keep him as I thought under the constant influence of the powerful remedy by giving a daily dose of only 2 milligr.; this has been repeated sixteen times up to January 19th. When the first 2 milligr. were given there was no longer any albumin in the urine. The temperature decreased gradually, the periods of less than 100° F. became longer,

[1] Four weeks have elapsed since. There has been some afternoon rise of temperature every day which could be controlled by a daily dose of digitalin and antipyrin. Meanwhile daily doses of tuberculin have been injected; they reach at present a decigramme without the slightest feverish reaction. The cough is reduced to one-fifth of what it was, expectoration is much less and easier, the râles are audible on one side only, large areas have their vesicular respiration restored to them, and the weight of the body has increased by more than six pounds.

[2] In the course of the last few weeks, the general condition of the patient improved sufficiently to enable him to take long walks.

on the 8th it did not rise at all beyond 101° F., and did not reach this figure at all between the 9th and 14th. On the 19th, when no inoculation was made, 102.1° F. was again reached through five or six evening hours. His general condition is not improved; has left for the South.

E. S——, aged thirty two, admitted December 16th, with the diagnosis of tuberculosis pulmonum. Bacilli have never been found, there being very little sputum. But has coughed these two years, had night-sweats, and some fever these four weeks. No history of tuberculosis in the family. On the right side dulness and fine crepitant râles over the clavicle, also below. Posteriorly the same. Over the lower right lobe diminished respiratory murmur and some dulness. On the left side, above and below the clavicle and in the supraspinal region, some crepitant fine râles during cough. This patient proved peculiarly immune against the effect of the lymph. He entered with a temperature of 101° F., and over, but never reached it again, seldom 100° F., was more frequently 98° F. than 99° F., and reached 97.2° F., lymph or no lymph. On December 1st, 1 milligr., and further on 2, 3, 5, 6, 10 (on the 30th), again on January 3d, 20 on the 8th, 25 on the 10th, 30 on the 14th, 40 on the 16th, 20 on the 23d and 25th; 50 on the 26th, 60 on the 27th, 70 on the 29th, 80 on the 30th. The doses were more than large enough to affect a healthy person. If it were not for the negative result of the search for bacilli, there would be no doubt in regard to the diagnosis. I do not feel, however, that I have a right to deny the presence of tuberculosis in the presence of all symptoms except bacilli. I have spoken of a case in which a two weeks' search for bacilli was in vain, and still they were present. Here, then, is an individual who in that condition is not affected by 360 milligr. administered within a week. Are we to call this absence of an effect the result of an idiosyncrasy? Though that term does not mean much and be only an expression of convenience, it shows that there is an occasional person that is not affected by a reasonably large dose of the lymph.

The condition of the patient is very much improved. Dulness has disappeared and there are no rhonchi. Evidently the pulmonary tissue has expanded, and the secretion stopped entirely. Improved, perhaps well.

Conclusions.—After an inoculation of tuberculous patients with tuberculin the temperature of the body would rise in from two to twenty-eight hours. Or it would not be influenced at all, in a few cases. Or it would fall first and then rise some. Sometimes it would rise, then fall and again rise. Still the rise is the usual occurrence. The descent from the maximum would in most cases take a longer time than the ascent. Unexpected rises of temperature were occasionally met with in inoculation of persons not tubercular. Perhaps there are other conditions besides tuberculosis in which tuberculin has the same effect. It is therefore not absolutely reliable in ferreting concealed tuberculosis. As a means of diagnosis it is not positively infallible. The doses required to obtain a reaction would vary considerably. Some patients would respond readily to a milligramme, some demanded ten times that amount. Children required relatively large doses, except the cases of tubercular peritonitis. One of them, at one time, after having shown high temperatures following previous inoculations, had a rectal temperature of 95.8° F., with a pulse of 62. The nature of the cases—whether bone, gland, skin, or lung—did not influence the effect of the doses. Lupus and pulmonary tuberculosis would be influenced by very small, or sometimes by large doses only. Therefore it is not safe to begin anywhere with 10 milligr., as has been advised, particularly as possibly the reaction may be retarded, and a second inoculation may have a cumulative effect. The therapeutic effect did not appear to depend on the energy of the reaction; on the contrary, some of the most favorable cases were those in which no, or very little increase of temperature was observed; while others, which exhibited high fever, and other symptoms of reaction, were endangered by dyspnœa, rhonchi, and the progress of local disturbance in the lungs. It seems advisable to begin with small doses in every case, and rather avoid than covet striking effects. At all events it is impossible to predict or calculate the effect of the remedy. Every case appears to require its own tentative treatment.

Other results of the inoculations were changes in pulse and respiration. In some these would correspond with the rise of temperature; in a few they would not be influenced. Sometimes the pulse, other times respiration would be more readily affected. The comfort or discomfort of the patient would not always be in accordance with the variations of temperature, pulse, or respiration. The site of the induration would sometimes smart, and flush after a while; indurations there were but few, abscesses none, local erythema extending beyond the site of injection a few, general eruption but one. No erysipelas. We have observed pain in the diseased part, in other limbs, swelling of glands sometimes in distant parts, perspiration, headache, rigors, languor, insomnia, palpitations, angina pectoris, nausea, increase of appetite, very slight jaundice, albuminuria in a few cases, increase of cough, diminution of cough, dyspnœa, rhonchi on expected and unexpected places, new regions of dulness, more expectoration—mostly in the beginning of treatment, change of its purulent into mucous character, increase or mostly decrease of secretion from accessible tuberculous parts, swelling of spleen and a peculiar form of glossitis in a few cases.

The results of, or events after, a protracted course of inoculations, may briefly be summed up as follows:

Tuberculosis of right knee. No change.

Dorsal spondylitis. No change.

Tubercular abscess in right inguinal region. No improvement.

Tubercular disease of right hip. No improvement.

Tuberculosis of right knee. No improvement.

Tuberculosis of right elbow. No improvement.

Tubercular ankle-joint, fistula. No improvement (in sixteen days).

Tubercular knee-joint. Death from miliary acute tuberculosis.

Caries of vertebræ and ribs. No improvement.

Cold abscess from right sacro-iliac synchondrosis. Slight improvement.

Tuberculosis of left tibio-tarsal articulation. Improvement.

Cutaneous tuberculosis. Great improvement.

Lupus vulgaris of nose and lip. Great improvement.

Epithelioma of right temple and face. No improvement.

Epithelioma of left temple and eyelid. No improvement.

Tubercular meningitis, almost moribund. No change.

Tubercular peritonitis. Two cases. Not influenced.

Pulmonary tuberculosis. Five cases. Improved. One of them relapsed and got worse.

Pulmonary tuberculosis. Four cases. Much improved.

Pulmonary tuberculosis. Two cases. Disappearance of local symptoms. Recovery. (Bacilli found in one.)

Pulmonary tuberculosis. Four cases. Not improved. Laryngeal tuberculosis in one of these much improved.

Pulmonary tuberculosis. One case. Died. Laryngeal ulcerations much improved.

I repeat: Of eleven cases of tuberculosis of bones and joints, eight were not improved, one died, two were improved.

Two cases of epithelioma not improved.

Two cases of cutaneous tuberculosis (one lupus) greatly improved.

Tubercular meningitis and peritonitis not influenced.

Of sixteen cases of pulmonary tuberculosis one died, four were not improved, five were improved, four were much improved, two recovered, even with disappearance of local pulmonary changes.

The two cases complicated with laryngeal tuberculosis did not thrive. One was not improved, one died. But in either the laryngeal ulcerations improved.[1]

I do not wish to compare these results with any other statistics, but offer them simply as contributions to the general stock of observation. The number of favorable cases of joint and bone tuberculosis strikes me as small, of pulmonary tuberculosis as large. When I ask myself what became of sixteen average cases of pulmonary tuberculosis admitted to our hospitals, before the inoculation epoch, the answer is very discouraging. It is true that most of the patients whose cases have been detailed above were placed in better conditions than ever before, and thus were given a more favorable chance for improvement. But so were all those who were admitted with tuberculosis any season, and any year; with hardly any resting place awaiting them but the dead-house.

Altogether, tuberculin has proven a remedy of great power for good, and for possible evil. It required credulous people believing in miracles to expect the impossible, and it took all the accumulated ignorance of centuries to believe in the possibility of reversing the rules of nature, which is as impartial in restoring as it is pitiless in destroying, subject to irrevocable laws. When great genii like Pasteur and Koch enrich the world with new discoveries in the fields of pathology and therapeutics, even then we must not look for infallibility. Tuberculin has been heralded as witchcraft by sensationalists. What it has done, and can do, is more than any other remedy —except climatic treatment in pulmonary tuberculosis, and surgical interference in select cases of local tuberculosis—has succeeded in accomplishing. From what little I have observed it would appear that the next future of successful treatment of pulmonary tuberculosis consists in the combination of climatic cures with the careful and persistent use of tuberculin. That is what we have to be thankful for even at this early date. At all events it is more becoming to honor our great men by appreciative criticism than to apotheose them first and exile them afterward. The former is the way of professional intellect and decorum, the latter that of a whimsical and flighty personal "government."[2]

REPORT OF A CASE OF GENERAL TUBERCULOSIS TREATED WITH KOCH'S LYMPH, WITH AUTOPSY.

By HENRY P. LOOMIS, M.D.,

NEW YORK.

MARTIN D ——, aged thirty-eight, married, wiremaker, was admitted into Bellevue Hospital on November 23, 1890, with rapidly advancing pulmonary tuberculosis. As he was steadily losing ground it was decided to try the effects of small injections of Koch's "lymph," especially as the patient and his family begged for the treatment. The patient gave no family history of tubercular disease. With the exception of one attack of acute rheumatism, and an occasional bronchitis, from which he always made a rapid and complete recovery, he had been strong and vigorous until six weeks before admission, when his present illness began, with a slight cough. His cough gradually grew worse, and was accompanied by loss of flesh and strength, and dyspnœa that became so urgent, and loss of strength so great, that he was obliged to give up work and come to the hospital. On December 23, 1890, he received his first injection of lymph, at which time a physical examination of his lungs showed diminished expansion and well-marked dulness at both apexes, most extensive on the left side. Large and small râles were heard in the intra-clavicular regions on both sides. Behind, in the left scapular region, there was tubular breathing, with large and fine crackling râles; in the right, fine crackling râles with crepitating friction-sounds. The patient weighed 142½ pounds. The amount of sputum per diem was one ounce, and from forty to forty-five tubercle bacilli were found to the field. The patient was daily injected with .00025 milligr. of the "original" fluid. After a week's treatment his condition was so much improved that he was able to be up and about the ward—his fever had decreased, and his night-sweats disappeared, and his dyspnœa was but slight. The patient remained in this condition for about ten days, the disease being apparently arrested, although no improvement in the physical signs could be detected.

On January 20th he began to expectorate blood, his temperature ranged from 102° to 104° F., his pulse became feeble and rapid. A microscopical examination of his sputum showed that the tubercle bacilli had increased from forty to fifty to the field. A loss of 6½ pounds since treatment began was noted, and a physical examination showed diffused infiltration of both lungs, with softening and excavation at the left apex.

The lymph injections were at once stopped, but the patient grew rapidly worse, and died on January 29th.

Autopsy, fourteen hours after death. *Brain:* There was intense congestion of the vessels of the cortex, with a moderate serous exudation into the meshes of the pia mater which showed in places an opacity. There were areas of intense hyperæmia in the brain, most marked at the cortex. A number of small, gray miliary tubercles were found along the fissure of Sylvius on both sides. Especially was this noticed on the left side where the pia mater was studded with small tubercular granulations for the space of an inch and a half. On no other portion of the brain were tubercles noted. *Heart:* Normal in appearance, weight 11 ounces, atheromatous patches occupied the first portion of the aorta. *Lungs:* The upper portion of the left lung was bound to the chest-wall by old adhesions. No adhesions were found on the right side. An old cavity, 5 ctm. in diameter, was situated at the apex of the left lung. It was surrounded by a fibrinous capsule one-eighth of an inch in thickness. The walls of the cavity were trabeculated, intensely congested, and covered with dark reddish-brown granulations. The cavity contained blood-stained necrotic-looking masses of cheesy tubercular material. There had been a hemorrhage into the cavity. Both lungs were studded throughout their entire extent with gray translucent tubercles the size of a pin's head; no normal pulmonary tissue could be found. Microscopical examination of the lung parenchyma showed the characteristic appearance of recent miliary tubercles, containing giant-cells in large numbers. Most of the alveoli between the tubercles were free of epithelial cells, but the capillaries in their walls were congested. In a few places cheesy pneumonic spots were noted. A section, including the wall of the cavity and the pulmonary tissue for three-fourths of an inch beyond, showed, under the microscope, 1st, a very intense hyperæmia of all the vessels, both in the old connective tissue which lined the cavity and in the walls of the adjoining cells. The hyperæmia was so great that in places hemorrhage had taken place; 2d, numerous areas of round-cell infiltration were noted; 3d, I saw nothing in or around the tubercles to indicate that a reparative process was being established. *Liver:* Weighed 4¾ pounds, was dense and of a dark mahogany color. A number of microscopical sections were made from different portions of the organ. Only a few contained miliary tubercles. The hepatic tissue showed a diffuse cirrhosis. *Spleen:* Normal size, soft, studded with miliary tubercles throughout its whole extent. The tubercles had the appearance of being of recent development. *Kidneys:* Weight of each 9 ounces. The left kidney was normal. Its supra-renal capsule, however, was intensely congested, and in places small

[1] A number of cases treated have not been accounted for, for the reason that the time of observation was too brief to yield any reliable result.

[2] To the house staffs of the German, Foundling, and Skin and Cancer Hospitals, I herewith express my appreciative thanks for their many and persistent labors connected with the accumulation of facts referring to the inoculations. They were indeed labors of love, with all of them.

hemorrhages had occurred in its substance. The right kidney was normal, with the exception in one place of a wedge-shaped eruption of miliary tubercles an inch across, involving both the cortex and medullary part. The collection of tubercles was easily recognizable to the naked eye, and on microscopical examination were seen by their structure to be of very recent origin. *Intestines:* The small intestines contained ten tubercular ulcers—some just forming, others of older date, but none showing the late changes of an ulcerative tubercular process. The largest ulcer was an inch and a half in diameter. The retro-peritoneal glands were enlarged, tubercular, and in places necrotic. *Stomach:* The mucous membrane of the stomach was intensely hyperæmic, and in places there were extensive submucous hemorrhages. No tubercles were found.

Remarks on the Case.—The interest in this case hinges on the questions, were tubercles present in the various organs before the injections were begun, or did they occur in the natural course of the disease, or were they produced by the lymph? The patient received in all twenty-four injections, as follows: fourteen of .00025 c.c. and ten of .0005 c.c.

Although the case was considered almost a hopeless one when the treatment was begun, at no time was it suspected that tubercular disease had extended beyond the lungs, for no symptoms of cerebral or intestinal tuberculosis were noted, even with a very careful daily examination of the patient by a number of observers. Most of the miliary tubercles found in the lungs were not of recent date. They had formed microscopical tubercular masses and contained necrotic centres. A microscopical examination of those found in the various organs showed a similarity in their stage of development. They were made up of giant-cells, well-marked epithelioid and lymphoid cells; they contained no cheesy centres, and, from their structure, must have been of very recent growth. The tubercular ulcers were confined to the small intestines and occupied the sites of the solitary and agminated glands. The appearance of the ulcers indicated that they were rapidly extending. The lymphatic glands showed an unusual degree of swelling, and a hyperæmia which extended to the innermost part of the gland, giving the appearance of glands which are the seat of an acute irritation. The physical signs of a cavity in this case were not distinct at the time of commencing the injections, but at the time of stopping the injections they had become very apparent.

Koch in his original article claims that the lymph produces necrosis around tubercular areas. Although a large number of sections taken from various portions of the lungs in this case were examined, in none of them did I find evidence of such a process.

The Absorption of Drugs in the Form of Ointments.—Dr. Luff says that certain drugs used in the form of ointments are most readily absorbed when the excipient is vaseline. Lanoline would be the best excipient when a local action of a drug is required, on account of its non-absorption. His experiments were made with iodide of potassium, carbolic acid, and resorcine, mixed with vaseline, lard, or lanoline. The mixture, contained in a sheep's bladder, was placed in a vessel of water, which was maintained at an equable temperature. The water was examined at short intervals in order to test the presence of the drugs. The exosmosis began in the case of the iodide of potassium with vaseline after one hour, with lard after nine hours; in the case of the carbolic acid with vaseline after two hours and a half, with lard after seven hours, in the case of the resorcine with vaseline after ten hours, with lard after fifteen hours. No exosmosis took place in the case of either of the reagents where lanoline was used within a period of twenty-four hours.—*Répertoire de Pharmacie.*

A SELF-RETAINING VAGINAL SPECULUM FOR OPERATIONS IN THE DORSAL POSITION.

By GEORGE M. EDEBOHLS, M.D.,
GYNECOLOGIST TO ST. FRANCIS' HOSPITAL, NEW YORK.

Up to three years ago, in common with the large majority of American gynecologists, I employed the Sims speculum and position for such operations as curettement of the uterus, trachelorrhaphy, amputation of the cervix, anterior colporrhaphy, for vesico-vaginal fistula, etc. At that time I began to operate with my patient in the dorsal position, with the thighs strongly flexed upon the abdomen, which I soon learned to prefer. During the past two years I have employed the Sims position only under the following single condition: After performing trachelorrhaphy or amputation of the cervix at the same sitting with hysterorrhaphy, or with shortening of the round ligaments, I have found the lateral position better adapted for the removal of sutures from the cervix. By its means the sutures can be reached without the necessity of dragging down the uterus and thus imperilling the result of the Alexander operation or of the ventro-fixation.

Soon after my conversion to the dorsal position I began to cast about for a self-retaining speculum for operative purposes in this position. I had realized from my previous experience as hospital interne the fatigue connected with holding a speculum for any length of time, and determined, if possible, to spare my assistants that infliction. Another more selfish motive was to get rid of the speculum-holding assistant's arm and hand, which are always more or less in the operator's way. The smaller number of assistants required presented still another advantage, especially valuable in private practice. A curettement of the uterus, for instance, provided anæsthesia can be dispensed with, can be performed without any expert assistance whatsoever, two relatives or friends of the patient to hold the legs constituting all the aid required.

FIG. 1.

I have discarded the use of sponges entirely in operations upon the cervix, vagina, and perineum, and employ in their stead continuous irrigation with sterilized water or an antiseptic solution. The dorsal position renders easy the employment of constant irrigation without wetting the patient's clothing, and is for this among other reasons to be preferred to the lateral.

Soon after I began to operate in the dorsal position I encountered in the *Annals of Gynecology* frequent allusions, by Cushing and Burt, to a modification of the so-called Martin speculum, made of lead pipe, self retaining by its shape, and acting as a perineal retractor by its weight. I made several of these for myself, but found them clumsy and unwieldy in use, and inapplicable, by reason of their weight and unsightly appearance, to the requirements of private practice.

The instrument depicted in Fig. 1 was made for me in the early part of 1888, and I have had it in constant use ever since. The speculum may be made of aluminium, or of copper or brass, nickel plated. The intra-vaginal blade forms, with the axis of the tubular handle, an angle of about forty-five degrees. This secures its self-retention when traction is made in a downward direction.

At its exit from the vulva the blade is provided with a broad flange on either side. These flanges take the place of lateral retractors in intra-vaginal operations.

That part of the speculum lying against the perineum is so curved as to adjust itself, *in the dorsal position with the thighs well flexed*, accurately to the perineum and anal region. It forms a shield to protect the operator against

surprises from the rectum of the patient. Should an alvine discharge occur during the operation it is guided by the front of the perineal part and of the handle of the speculum to the pail hanging beneath. Pollution and infection of the field of operation are thus prevented. The tubular handle conducts the irrigation fluids to the pail suspended beneath. This pail, of a capacity of about a quart, is filled with fluid, the weight of which furnishes the force retracting the perineum. The overflow from the pail runs into a larger basin standing beneath it on the floor. Any solid weight may, of course, take the place of the pail.

In the beginning of my experiments I had the instrument made in two sizes, or rather with two different lengths of the intravaginal blade. The longer blade I found especially serviceable in curettement of the uterus; as by its use the vagina could be kept filled with an antiseptic solution in which the external os could be held

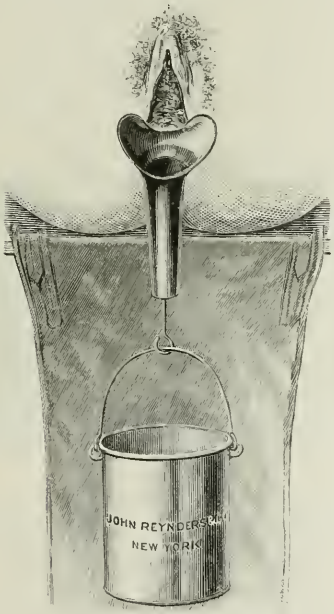


Fig. 2.

submerged during the performance of the operation. In those operations, however, requiring the uterus to be drawn down, the longer blade sometimes proved an obstacle by impinging against and holding up the posterior vaginal fornix. A shorter blade overcame the difficulty. Further experience, however, demonstrated that a blade of medium length answered all purposes.

The speculum is constructed and shaped for use in the dorsal position *with the thighs well flexed upon the abdomen*. An attempt to use it in any other position, as for instance the dorsal with the thighs perpendicular to the surface of the table, will inevitably result in disappointment. This source of failure has obtained, to my knowledge, in the practice of several physicians. As an instance of how constituted some men are to appreciate the eternal fitness of things, I may cite the case of a confrère whom I met in one of the shops inspecting the instrument. He regarded the blade as the handle, and was profoundly absorbed in a study of the value of the tubular handle as a cylindrical speculum, for a variety of which he evidently mistook the instrument.

The patient's hips should, of course, be drawn down to or even a little beyond, the very end of the table, so as to allow free swinging room for speculum and pail. The index finger of the left hand is introduced well into the vagina, pulling down its posterior wall and depressing the perineum. The blade of the instrument is next slipped in and, on adjusting the pail filled with water in the manner depicted in the cut and withdrawing the index finger, the speculum adjusts itself in position, *provided always the thighs are well flexed upon the abdomen*. The cervix is now seized with a double tenaculum forceps and, in the absence of peri-uterine adhesions and exudates, can be readily brought down to the vulva.

An instrument very similar to my own is depicted in the *Annual of the Universal Medical Sciences*, issue of 1889, vol. ii., E-65. It is designated Jones-Martin speculum, and the cut is credited to the *Medical and Surgical Reporter*. On careful search through the files of the latter journal I was unable to find a description or cut of the instrument.

Another instrument, based upon the same idea, is figured and described in the *American Journal of Obstetrics*, 1887, No. 5, p. 549. It was presented by its originator, Dr. George D. Jones, at a meeting of the Obstetrical Society of Cincinnati on January 13, 1887. In answer to my inquiries Dr. Jones informs me that he improved his instrument soon after its first presentation. I quote from Dr. Jones's letter: "With my instrument the angle of the blade is gauged by the angle of the handle, and a rubber hose attached by a small thimble so that the fluids pass off into a bucket or basin. The so-called Jones-Martin speculum (above alluded to) I have nothing to do with."

In the *Nouvelles Archives d'Obstetr. et de Gyn.*, 1889, No. 5, Nitot describes a self-retaining speculum with tubular handle. It consists of a retractor for the anterior and another for the posterior vaginal wall. The anterior blade is operated by pulleys and weights acting from a gallows-like structure swinging above the patient. The posterior blade is retracted by a mechanism attached to the legs of the table. The entire apparatus appears much too complicated and non-practical to be adapted to general use.

As will be seen from the above, practically the same idea has occurred to several men, and each has elaborated it in his own way. I demonstrated my instrument at a meeting of the Gynecological Section of the Tenth International Medical Congress recently held at Berlin. Our German confrères, who operate all but exclusively in the dorsal position, were pleased to accord it a favorable reception.

A British View on Cremation.—Cremation commends itself as an excellent way of ending an essentially unpleasant business. The best of us succeed in making ourselves disagreeable to someone or the other during our lifetime, and we are all unintentionally offensive to everybody else when we have ended it. Then, in Heaven's name, have done with it as soon as possible! And the picturesque funeral pile, or the modern matter of-fact furnace, makes the speediest end our ingenuity has yet devised. To men of classical tastes the recollection that the pyre was the chief and most honorable mode of sepulture during those glorious days when the human intellect seemingly towered to its topmost height, when the brain of gods and not base mechanic hands ruled the world, may add another and not the less potent because a sentimental plea. And to us the thought that Hippocrates and Galen, in those far-off days when medicine was "the noblest of professions," and not, what the teaching of the *British Medical Journal* and the blare of Birmingham trumpets is fast making it—the worst-paying of trades—so yielded up all that could decay and pass away, and, also, that the most effectual way of disposing of disease-germs is to burn them, should alike weigh down the doubtful balance beam.—*The Provincial Medical Journal.*

A CASE OF TUMOR OF THE LARYNX, SHOWING AMYLOID DEGENERATION.

By FRANKLIN H. HOOPER, M.D.,

BOSTON, MASS.

The chief interest of this case arose from the unusual histological structure of the tumor. But besides this, it was interesting to me as being the largest pediculated intra-laryngeal growth met with in my practice, and from the fact that tumors of the larynx are rare in this country compared with the published statistics of their frequency in Europe; for, out of the last 7,500 patients who have come under my observation, either at my hospital throat clinics, or in my private practice, non-malignant tumors of the larynx have existed in but twenty-one cases.

The patient, a very stout, thick-set man, aged fifty-three, consulted me December 20, 1889. His sole complaint was hoarseness. This began, he thought, with an ordinary cold four years previously. The hoarseness had steadily increased, and during the two months immediately preceding consultation, articulation had become almost impossible. Examination with the laryngoscope revealed the appearances shown in Fig. 1. The growth moved slightly with forced respiration. It appeared to be attached to the superior surface of the anterior region of the left vocal cord, but after its removal it was determined that it originated also from a portion of the ventricle. The surface of the tumor was smooth, and presented a mottled appearance, being of a deep-red color with spots of a paler hue dotted over its surface.

Fig. 1.—Actual size.

The case was an unpromising one for an intra-laryngeal operation, owing to the excessive irritability of the patient's throat. His *bonne volonté*, however, compensated for the difficulties involved in operating, and after a few unsuccessful attempts, accompanied by the patient's vomiting in one of them, a loop was passed under and around the growth, and the tumor was removed *en bloc*.

Previous to this the larynx and pharynx had been showered liberally with a four per cent. solution of cocaine. This may seem a weak solution to use for the purpose, but in my experience, when cocaine acts at all in these irritable cases, a four per cent. solution is as efficacious as one of twenty per cent.

The size and shape of this growth, and the limited surface of its attachment, made it evident that the snare was the proper means to employ for its removal. The instrument by which this was effected is shown in Fig. 2.

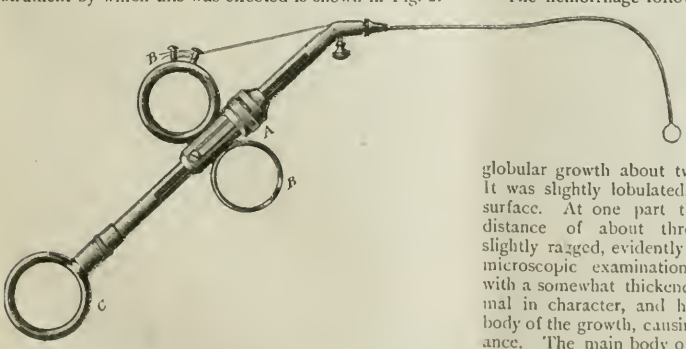
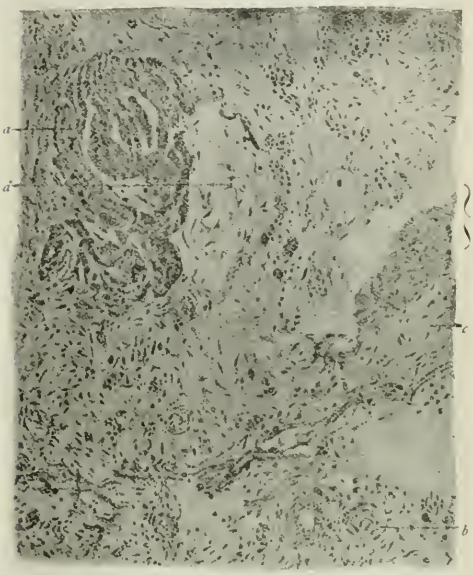


Fig. 2.

The handle of this instrument is the same as that described by me in the Boston *Medical and Surgical Journal*, December 19, 1889, under the name of "A Combined Nasal Snare and Écraseur." For laryngeal operations a cannula having the Schrötter curve may be adjusted to the handle. The merit of this instrument is that it can instantly be changed from a snare into a powerful écraseur. For when the collar *A* is to the left the rings *B B* may be freely moved up or drawn down as in ordinary snares. On turning the collar *A* to the right the screw-thread of the instrument becomes engaged, and the result is a perfect écraseur, the rings *B B* with the wire attached moving downward only as the screw is operated by turning the ring *C*. With this instrument, therefore, one need



Zeiss Obj. A A } Paper on Level with Stage.
Oc. 4 }

Fig. 3.—Hæmotoxylon Preparation. *a*, Rounded masses, showing amyloid change; *b*, blood-vessel, showing thickened amyloid walls; *c*, coagulated mucin; *d*, star-shaped anastomosing cells.

feel no apprehension of getting the loop around a tough growth and being unable to pull the growth off or to extricate the snare. Although the tumor in this instance came away without much force on my part, I should have hesitated about using any other form of snare for its removal.

The hemorrhage following the removal of the growth was considerable for an intra-laryngeal operation, but it ceased completely in a few minutes. Dr. William F. Whitney's report of his examination of the tumor is as follows:

"The tumor, which had been preserved in alcohol, was a globular growth about twelve millimetres in diameter. It was slightly lobulated, and in general with a smooth surface. At one part the surface was broken for the distance of about three or four millimetres, and slightly ragged, evidently the point of attachment. On microscopic examination the surface was seen covered with a somewhat thickened layer of epithelial cells, normal in character, and here and there sinking into the body of the growth, causing the slightly lobulated appearance. The main body of the growth was made up of a tissue which in places was composed of elongated, spindle- and star-shaped anastomosing cells, leaving spaces which were filled with a fluid containing a substance coagulable by alcohol (mucin). In other parts the tissue was more fibrous, and many of these fibres were thickened and hyaline. In a few places were irregular

rounded masses of transparent material, with a few small scattered nuclei, and which stained a mahogany-brown in liq. iodinii comp.

"The tissues were traversed in all directions by large blood-vessels, and here and there were clumps of blood-pigment (pointing to previous hemorrhages). The coats of the blood-vessels, in places, were transparent and took the same mahogany-brown color as above.

"The diagnosis is a telangiectatic myxo-fibroma, with hyaline and amyloid degeneration. The accompanying drawing (Fig. 3) shows the principal points of the structure of the growth above described." The patient, living a long distance from Boston, has not been seen since the operation. He writes me, however, under date of October 17, 1890, that his voice, which was fully restored by the operation, continues in its normal condition; so it may be presumed that there has been no recurrence of the tumor.

Progress of Medical Science.

Scrofulous Kidney.—At a recent meeting of the Manchester Pathological Society, Dr. Railton showed specimens from a case of scrofulous kidney in a boy, aged two years and nine months, who had been an in-patient at the Manchester Clinical Hospital. A tumor was observed on the left side of the abdomen, extending from the ribs to the iliac crest, and reaching as far forward as one finger's breadth in front of the vertical line of the anterior-superior iliac spine. There was no movement of the tumor during respiration, and the percussion note over it was dull. There was, in addition, some slight dulness over the apices of both lungs. One month after admission the child died of tuberculous meningitis. After death, the left kidney was found to be four or five times its normal size, and almost completely transformed into a caseous mass; its pelvis and calyces were dilated, and contained purulent fluid. The ureter was completely closed, accounting for the fact that the urine showed nothing abnormal. The apices of both lungs showed infiltration, caseation, calcification, while that of the right showed, in addition, a small cavity. The brain showed a considerable quantity of fluid in the ventricles, exuded lymph in the space between the optic chiasma and pons and along the sylvian fissures, tubercles on the lower surface of the lateral lobes of the cerebellum and in the longitudinal fissure. Dr. Railton remarked that the disease in the left kidney had probably existed for a long time before that in the lungs, and had no causal relation to it, and that the meningeal tuberculosis was of quite recent date. He asked whether some distinction should not be drawn between a slow caseating process like that in the kidney of this case, or as frequently witnessed in tumors of the cerebellum, and the rapidly disseminating process known as acute tuberculosis.

Dr. Dreschfeld would have expected to find, from Dr. Railton's description of the *ante-mortem* appearances, the kidney much larger than it turned out to be, but had often noticed similar discrepancies in other abdominal tumors. He did not consider that any real difference existed between this class of case and ordinary tuberculosis. The presence of baciili in the urine would be conclusive evidence in a similar case, but in this the blocking of the ureter rendered such appearance impossible.

Treatment of Habitnal Abortion.—At a recent meeting of the West London Medico-chirurgical Society, Dr. Napier read a communication on this subject. He classified the various methods of treatment under four headings: 1, Rest or exercise, insisting on the necessity of absolute rest for at least six days in the month; 2, local cure of uterine disease, chronic endometritis being regarded as the chief cause of abortion, in that retroflexion and other displacements, with atony of the mucous membrane, leucorrhœa, etc., were regarded as resulting from chronic uterine inflammations or congestions; 3, constitutional treatment; and 4, drug treatment. The value of local treatment was strongly urged, and in estimating the comparative utility of drugs the prolonged exhibition of mercury, even in cases of a non-specific nature, was extolled above all other therapy, while as a uterine sedative viburnum was preferred to any other drug by the author of the paper, in whose practice seventy-seven per cent. of habitual aborters had borne living children after treatment by local methods and drugs.

Milk Diet in Scurvy.—Dr. Tchelzoff recommends an absolute milk diet in scurvy. This year during the epidemic of scurvy in Russia 148 patients were admitted to the hospitals, of which 30 were subjected to absolute milk diet. The 30 cases treated by the author were extremely severe ones, presenting œdema of the legs, and especially of those limbs that were more subjected to exercise. For the sake of experiment, some of the selected cases were put in the beginning on a mixed anti scorbutic and milk diet, from four to five glassfuls of milk being given daily. The improvement in these cases was very slow. An absolute milk diet was then substituted, beginning with from four to five glassfuls of milk, and increasing the quantity of milk from one-half to one glassful a day, no medicine being administered. The author's conclusions are: 1. An absolute milk diet aborts the scorbutic process in any period of its course. 2. With the above method of treatment there is no recurrence. 3. With the above method convalescence is established much quicker than with the ordinary anti scorbutic treatment. Thus, out of twenty-eight cases, nineteen recovered in eight days. On an average five cases recovered in two weeks, and four cases recovered in three weeks. 4. The addition to the milk of the smallest amount of any other article of diet protracts the recovery.—*Medical ana Surgical Reporter.*

Experimental Peritonitis.—Dr. Waterhouse, in a series of twelve observations, confirmed the results of Grawitz, and negatived those of Pawlow-ky, that a considerable quantity of a virulent culture of the staphylococcus aureus might be injected into the abdominal cavity without causing peritonitis. Also, when the staphylococcus is mixed with an untried medium it causes no disturbance if the mass can be readily absorbed; the greater the difficulty of absorption the more certain the production of peritonitis. Trials were made with agar-agar, gelatine, and coagulated blood, each containing the staphylococcus, and the results were positive. Pus containing the staphylococcus possessed strong pyogenic properties, due, the writer thinks, more to its contained chemical substances than to its micro-organisms. The observation of Grawitz, that when the infection was introduced through a wound in the abdominal wall peritonitis followed, was not confirmed. When the wound was pencilled with turpentine an abscess was produced, but only in cases where the wound involved the peritoneum; if it extended only to that membrane and not through it, no abscess was caused. When artificial defects were produced in the peritoneum injections of the staphylococcus caused peritonitis; a similar effect was produced in animals affected with ascites. A strangulation of the intestine for some hours, similar to that produced by a hernia, invariably caused peritonitis after the injection of the staphylococcus into the abdomen or blood-vessels. The same result was reached if the coccus was injected subcutaneously, but not if it was placed in the intestine. A few observations upon man has shown that the staphylococcus may be injected under the healthy skin without danger, but that suppuration follows if the absorption is hindered or the normal conditions are altered by passive hyperæmia.—*Journal of the American Medical Association.*

Chlorosis and its Treatment.—Dr. Scholz, of Bremen, has published a remarkable work on chlorosis, the outcome of observations made during the last twenty years. In

stead of regarding the deficiency of iron or hæmoglobin, or even that of the red corpuscles, as the primary affection, he states that contraction of the vessels is always present in these cases, as, indeed was observed by Bamberger, Rokitansky. and Virchow; and this, he contends, is not to be regarded as a complication due to an altered condition of the blood, but as the primary condition which is followed by the morbid change in the blood. As a matter of fact, the vessels are, he says, too full, or in the condition termed by the older physicians "plethora ad vasa," the blood being—or becoming—abnormally serous. Long ago his attention was struck by the cold and livid condition of the skin in anæmic subjects, and he was led by this to employ hot baths, together with gentle friction, in the treatment, with a view of acting directly upon the skin, so as to improve the vitality and nutrition generally. The success of his first attempts was so marked that he was encouraged to persevere in this line of treatment, and he has since had many opportunities of extending his experience with it. Hot baths diminish the plethora by relaxing the tension of the vascular system, which is high, quickening the circulation, and thus relieving the palpitation, dyspnœa, and other symptoms. In thirty cases where the distress of the patient was very great, Dr. Scholz has gone a step further and supplemented the hot bath by venesection. Paradoxical as this treatment may appear, it was followed by marked benefit, and if the theory of the pathology of chlorosis above mentioned be correct, there can be little doubt that the novel line of treatment practised by Dr. Scholz is justifiable.—*The Lancet.*

Retinol in Medicine.—This drug, C_{56}, H_{10}, and at present but little known, seems destined to play an important part in medicine as a vehicle and dissolvent of substances but slightly soluble. Discovered in 1858 by Pelletier and Walter, retinol, under its erroneous designation of resinol, remained in obscurity till 1890 when it was employed successfully by Dr. Balzer in specific vaginitis, syphilitic and varicose ulcers. In the issue of *Médicine moderne*, February 14, 1891, there is a description of the drug, together with its present pharmaceutical and therapeutic range. It will dissolve many antiseptic agents, and is without irritating effect. Salol is soluble in ten parts of retinol, iodol, naphthol, and aristol in fifty parts, camphor in twenty, chrysophanic acid in forty, cocaine in thirty, and strychnine in forty parts of retinol. Camphorated naphthol is very soluble in this substance. Oil of Cade mixes with it in any proportion, and also phenic acid, essence of terebinthine, alcohol and ether. Resorcin is dissolved first in a small quantity of glycerine before the retinol is added, and iodoform must first be treated similarly with ether. Iodine is also soluble in retinol, but a resinous substance is shortly deposited. Retinol combines readily with fatty matter, with oil, vaseline, ointments, lanoline, oleonaphthine, and glycerine, even replacing the latter at times with advantage as an antiseptic, except where greater consistency or the presence of glycerine is required. In specific vaginitis tampons saturated with pure retinol are used, or suppositories of equal parts of white wax or soap and retinol. Tannin, borax, and colophonia may be added. In gonorrhœa in the male retinol may be employed alone as an injection, or associated with resorcin in parts of three to one hundred; and administered pure in capsules, or mixed with salol. In skin diseases, as psoriasis, it is combined with starch, naphthol, and oil of Cade.

Politzerization.—Dr. H. MacNaughton Jones gives the following hints as to Politzer's method of treatment. 1. Let the patient be seated—at times patients become slightly giddy on inflation of the tympanum. 2. Make the patient swallow some sips of water in rapid succession, or pronounce, through the nose, the vowel "o" a few times—this assists in opening the Eustachian tube, and is a form of "gymnastics" of the palatal muscles. 3. Incline the head to either side—inflate through the nostrils opposite to the side to which the head is inclined. 4. Direct the current horizontally. 5. Experimentally ascertain whether any form of nasal phonation or the act of deglutition best dilates the aperture of the Eustachian tube. Adopt this method with the individual case. 6. After politzerization make the patient again swallow several sips of water. 7. With children, phonation is the best act to take advantage of; we can, as a rule, inflate when the child cries; with the auto-inflating bag there is seldom any difficulty—children quickly learn to inflate the middle-ear. Finally, let me enumerate the conditions in which the method of Politzer will be found of the greatest assistance in treatment. 1. In temporary collapse or closure of the Eustachian tube from catarrh of the naso-pharynx. 2. In collapse of the Eustachian tube from enervated states of the tubal muscles. 3. In chronic catarrhal conditions of the naso-pharynx and attendant chronic catarrhal conditions of the tympanum. 4. After intra-tympanic alkaline injections or douchings of the Eustachian tube. 5. After the use of the Eustachian catheter or bougie. 6. In chronic perforation of the membrana tympani, after cleansing of the middle ear, and before applying an artificial membrane. 7. After removal of impacted cerumen. 8. For cases of tinnitus dependent upon abnormal states of the middle ear. 9. For similar cases attended by vertigo. 10. For temporary deafness which attends on seabathing or diving. 11. In cases of deafness dependent upon obstructed nasal respiration. 12. In collapse of the membrana tympani. 13. In those cases of "progressive deafness" in which there is some degree of fixation or rigidity of the ossicles.—*Medical Press.*

Péan's Treatment of Stricture of the Ileo-cæcal Valve.—According to Dr. Péan, stricture of the ileo-cæcal valve is very rare. Up to the present only eight cases are on record. They might be divided into two classes—those of a neoplastic origin, and those derived from inflammatory causes. Surgeons treated these cases in different ways. Maydl, Barton, and Jessop made an artificial anus above the stricture, while Krausold did not hesitate to resect the parts. Péan devised an operation consisting of dilatation of the narrowed part. An incision parallel to Poupart's ligament and about an inch and a half above it, is made from the superior and anterior iliac spine to the spine of the pubis, dividing the skin and the cellular tissue. A shorter incision is made through the aponeurosis and the muscles, the peritoneum is opened for about an inch and three-quarters, and the cæcum is reached. Hæmostatic forceps are placed on every bleeding vessel, and antiseptic plugs surround the orifice, in order to hinder any suspicious fluid from entering the cavity. As soon as the ileo-cæcal valve is brought to view, the neighboring portions of the cæcum and the ilium are drawn on and tied above and below the valve with two tubes of india-rubber, the loops of which are passed through the mesenteric portions of the intestines by a sharp forceps, and the extremities of the tubes are maintained by a kind of blunt artery-forceps. These tubes not only prevent hemorrhage, but hinder the circulation of fecal matters during the operation. After these precautions the wall of the intestine over the valve was incised for the space of three inches and the interior washed with an antiseptic solution, and the valve examined. It is generally found to be transformed into fibrous tissue and studded with fleshy growths which narrow considerably the orifice. These growths are cut away, and the primitive wound closed by sutures, turning the lips inside so that the occlusion is perfect. The sutures are double, deep, and superficial. This operation terminated, the loops of india-rubber are withdrawn, and immediately the blood is seen to circulate in the vessels, and the fecal matter to move forward with astonishing rapidity. Iodoform dressing is applied, and the patient carried back to bed. Two patients operated on by this method did remarkably well.

Scrofuloderma.– Unna divides scrofuloderma into two classes: 1, That resulting secondarily from tuberculosis of other organs, as bones and joints, generally with the formation of white swellings resulting in fistulous tracts; and 2, primary scrofuloderma. This may again be divided into two sub-classes, according as the cases begin as well-defined lupus, on points of which may appear doughy, pale-red swellings with a marked tendency to suppuration, or on the other hand, the lesions appear independently of any previous lupus. In these last cases there appears a small subcutaneous nodule, which grows toward the cutis and then slowly, though spontaneously, develops into an abscess. This spontaneous suppuration in scrofulodermata suggested to Unna the possibility of there being here more than a simple tuberculous infection, that is to say, a mixed tubercle and pus-coccus infection. According as one or the other disease-producer occurred in excess in the tissues, so would the tubercular or purulent nature of the affection be the more prominent. Should the pus-cocci form the second invasion on a soil already tuberculous, they find a tissue below par vitally, one in which they could not give rise to a frankly phlegmonous inflammation, and in consequence there would result a gummy softening of the tissues, a "moist caseation" or "gummy tuberculization." Dr. Leistikow applied to this theory microscopical and bacteriological tests in Unna's laboratory. He employed excised portions of scrofulodermus from which he obtained cultures of staphylococcus aureus, even from the deepest parts of nodules which had been covered with unbroken skin. He was unable to obtain cultures of B. tuberculosis. A single specimen of the latter was, however, found in sections. Numerous tubercles were to be seen, and round-cell infiltration, especially in the papillary layer. The results of these researches seem, therefore, to establish Unna's theory.—*Weekly Medical Review.*

The Gastric Functions in Cancer of the Stomach.—Dr. Voinovitch, of St. Petersburg, has published a monograph on this subject, based on his elaborate observations on twenty-one cases of gastric cancer. Of the number sixteen cases referred to men aged from thirty-four to sixty-three, and five to women aged from forty to sixty. Twelve patients were suffering from malignant disease of the pylorus, with a more or less marked stenosis of the orifice; three from a diffuse new-growth, involving mainly the posterior wall of the organ; four from cancer of the cardia and œsophagus; and two from that of the gastric end of the gullet. In nineteen out of the twenty-one cases the diagnosis was subsequently confirmed by the post-mortem examination. A general or total acidity of the gastric juice was appreciated by means of a decinormal solution of caustic soda, an alcoholic solution of phenol-phtaleïne being used as an indicator. The presence and proportion of hydrochloric acid were determined after Sjöquist's method, as well as by means of various color-tests, such as tropæoline-oo, methyl-violet, congo-red paper, phloro-glucine-vanilline, Lépine's *vert brillant*, etc. The motor power of the stomach was examined after Ewald Sievers's method (consisting in the internal administration of salol, with a subsequent treatment of the urine by perchloride of iron), and the absorptive power after Penzold-Faber's plan (by the internal use of iodide of potassium, with a subsequent examination of the saliva for iodine). The principal corollaries deduced by Dr. Voinovitch from his investigations may be summed up as follows: 1. In cases of cancer of the stomach the gastric juice undergoes profound alterations. 2. In a vast majority of the cases (in nineteen out of twenty one) no free hydrochloric acid can be detected in the juice. (The statement is based on two hundred and eighty-seven analyses.) 3. Pepsine seems to be also absent—at least, in a considerable majority of cases. 4. Hammarsten's ferment (*Labferment*) is invariably absent. 5. In cases of pyloric malignant disease the motor power of the stomach is greatly lessened; in those of cancer of the cardia and œsophagus it remains normal, or sometimes even increases. 6. The absorptive power of the organ is always diminished, and that usually to a considerable degree. 7. As a diagnostic sign (in cases of gastric cancer), the absence of hydrochloric acid from the juice is not less characteristic and reliable than the presence of a tumor in the gastric region.—*The Provincial Medical Journal.*

Operations for Uterine Fibroids. — Dr. Martin, of Berlin, announces the following views: 1. Enucleation per vaginam should be limited to cases in which the tumor is of small size and in which there is already a tendency to extrusion. 2. If the uterus is the seat of fibroids, but is still movable in the pelvis, the tumor being small relative to the calibre of the vagina, extirpation of the uterus per vaginam is to be recommended in case the condition is one which calls for operative treatment. 3. Large tumors which must be attacked by the abdominal cavity should be excised without the removal of other structures if possible. Whenever it is possible, the ovaries and tubes should be allowed to remain, together with a sufficiently intact uterus for the performance of its customary functions. 4. Enucleation of myomata during gestation, by abdominal section, may be regarded as a perfectly proper operation in the light of present experience. 5. If the uterus cannot be retained it should be removed entire with the tumor, the question as to the intraperitoneal or extraperitoneal treatment of the pedicle being a matter upon which no positive directions can be given at present. —*Zeitschrift für Geburtshülfe und Gynækologie.*

Cysts of the Epididymis.—Dr. Poirier discusses the three prevailing theories as to the formation of cysts of the epididymis, namely, from the remains of the Wolffian body; from rupture of spermatic tubules; and, lastly, from retention cysts. These three theories correspond to the three varieties of cysts which actually exist, but the last seems applicable to the greatest number. Professor Roth's observation, that vasa aberrantia often spring from the rete testis, is confirmed. Forty-three testicles were injected with mercury, and in twenty-five a vas aberrans sprang from the rete testis, usually at the junction of the head of the epididymis with the body of the testicle and at the top of the digital fossa. This unrecognized blind tube probably orignated from one of the tubules of the Wolffian body, and by accumulation of fluid within it gave rise to cysts; these, as they grow, acquire communication with the spermatic ducts, and become spermatic cysts. Serous cysts are next described, and are said to originate in three situations: between the head of the epididymis and testis, at the middle part of the body of the epididymis, and between the tail of the epididymis and testis. They were not to be confounded with the serous cysts found in old men, nor with those due to faults in the seminal tubes, and which are lined with columnar ciliated epithelium. On the contrary, this variety was lined with two kinds of epithelium, namely, ciliated and pavement. Also, they are capable of growing to a considerable size and of becoming true spermatic cysts. Like cysts in other regions, they owe their origin to traumatism or to inflammation, and only acquire their communications with seminal tubes at later stages of their existence, after which they grow rapidly. Further, the adhesions which the epididymis and testes form with one another after birth are a factor in the formation of these serous cysts. The conclusion arrived at by Dr. Poirier is that the retention theory does not account for the formation of a great many cysts of the epididymis, and that there is a variety of serous cysts which originate during the adhesion of the epididymis to the testis, and which afterward form communications with spermatic ducts, and then rapidly increase.—*Revue de Chirurgie.*

Causes of Drug Eruptions.—Dr. Brooke comes to the conclusion that all the many-sided phenomena of the drug exanthemata are, as far as the vascular system is

concerned, reduced down to one single element, that of vascular paralysis or hyperæmia. When a simple paralysis occurs we have a simple erythema, which can, when the epidermis has little power of resistance, give rise to vesiculating and bullous erythemata; or again, when a spastic element concurs, the erythematous basis may develop into papules like those of erythema multiforme and nodosum, or into wheals; or, finally, where a passive condition takes the place of the active hyperæmia, conditions of purpura and œdema may be produced. All these different types depend not on the constitution of the vascular and nervous systems, but in the peculiarities of the skin itself, and vary according to its individuality. Thus we see that the limitation of these seven main types and their connecting links are after all not so very remarkable as one is led to believe. We can, as we follow the drugs first in their influence on the nervous system and then on the skin itself, explain the different peculiarities which distinguished the purely angeio-neurotic drug exanthemata. But there are some which in addition present more pronounced symptoms of inflammation, as the persistent scarlet rash due to quinine, followed by desquamation. Here we have to recognize, in addition to the angeio neurotic influence of the nerve-centres, a local direct influence of the drug circulating in the blood on the tissues of the skin itself.—*British Journal of Dermatology.*

Diabetes Mellitus in Children.—Dr. W. Kühl discusses the points of difference between diabetes in the adult and in children. In point of sex, in the first place, there is a marked difference, diabetes being more frequent in males in the adult form and in females in children. In regard to etiology heredity plays an important part, as diabetes or some form of nervous disease had always shown itself among the ancestors. There is also a possibility of injury being a cause among children. The symptoms as a whole are the same, but one may be almost looked upon as specific as regards children, and that is the high percentage of sugar. The course is generally much more rapid in children, as might be expected, diabetes being a disease of abnormal tissue change, and this is more likely to prove injurious in persons in whom tissue growth is proceeding. In cases of true diabetes mellitus in children the prognosis is absolutely unfavorable. As regards the various forms, opinion is still divided. One is that the so-called mild form is only an early stage and that it passes by transition into the graver one. Others, again, believe this is never the case. The author gives his adherence to the former belief. The transition from the milder to the graver form takes place the more rapidly the younger the subject. The graver cases are met with more frequently among the poorer classes, the cause being that among them the milder cases pass undetected, and the disease passes unnoticed from one to the other. This also takes place among the better classes if the mild form continues long unrecognized.—*Medical Press.*

Why the Stomach does not Digest Itself.—From a new study of this subject Dr. E. Sehrwald announces the following conclusions: 1. The balance between the alkali of the blood and the acid of the gastric juice does not follow, during life, the law of diffusion, but moves in narrower limits. 2. The self-digestion of the stomach is partly prevented by the alkalinity of the blood and partly by cell-action. 3. The living epithelium interposed between the blood and the gastric juice prevents their mutual neutralization and preserves the alkalinity of the blood and the acidity of the gastric juice. 4. By this protection the stomach is spared a great deal of work of secretion and absorption. 5. The protection furnished by the flowing blood is partly due to its alkalinity and partly to its properties as a nutritive liquid. 6. All influences which arrest the nutrition of the cells of the walls of the stomach, may lead to self-digestion and ulceration. The conditions which may be mentioned in this connection are, first, disturbances in the circulation, second, direct injury to the epithelium, and third, injuries of the trophic nerves.—*Münchener Medizinische Wochenschrift.*

Calcareous Degeneration of the Pleura. Dr. Poulaillon read a paper on this subject before the Anatomical Society of Paris. Three cases were described. The first was of traumatic origin. A blow on the right side of the thorax, followed by hæmato-thorax, occurred fifteen years before the death of the patient from phthisis. The calcification was advanced in the right pleura. The second patient died from cancer of the right kidney, with severe hæmaturia. Nothing abnormal could be detected during the patient's last illness, in the thoracic viscera, nor was there any evidence of a previous attack of pulmonary disease. Nevertheless, the lateral and posterior aspects of the two lower thirds of the right lung were covered by a fibro-cartilaginous and fibro calcareous shell consisting of pleura. The third case is of special interest to surgeons. A man, aged fifty, entered a hospital for the cure of a pleuro-thoracic fistula in the seventh intercostal space on the left side. It was the result of tapping for empyema five years previously. The sound introduced into the fistula touched the extensive rough surface of some hard substance. Caries of the rib, with the formation of costo-pleural osteophytes, was diagnosed, and there appeared to be sequestra, which moved freely when touched by the sound. The fistula was dilated with a laminaria tent, to aid exploration. By this procedure, a splinter-like fragment of a bony substance, resembling a sequestrum, came away. So evident, at the time, seemed the nature of the disease, that the fragment was not examined by a pathologist. The operation for resection of the rib was commenced; but on reaching the rib that bone was found perfectly healthy. Extensive calcification of the pleura was detected; the finger could be passed into a narrow but extensive space between the calcified visceral and parietal layers of the diseased serous membrane. A gritty semifluid material filled this space. A large calcareous fragment was pulled out, the pleura was washed out with an antiseptic solution, and the wound dressed antiseptically. The fistula did not entirely close, but the patient left the hospital with his health much improved. Pathological research shows that these plates are first developed through hyperplasia of the subendothelial connective tissue of the parietal layer of the pleura; they are seldom, if ever, of purely pulmonary origin. Traumatism is the most frequent cause of their development. Diagnosis by physical signs is seldom possible.—*The British Medical Journal.*

The Three Kinds of Diabetes.—According to Professor Lancereaux there are three kinds of diabetes. 1. Traumatic diabetes, which appears after injuries to the brain and spinal cord. There is moderate polyphagia, polydipsia, polyuria, and glycosuria, and the prognosis is generally favorable. 2. Pancreatic diabetes. This is the form ordinarily called diabetes mellitus. It is characterized by severe polyphagia, polyuria, and glycosuria. It is supposed to be due to some disease of the pancreas. 3. Adipose diabetes. The symptoms are of moderate severity and the excretion of sugar scanty.—*L'Union Médicale.*

Antipyrin in Chorea.—The *Journal de Médecine et de Chirurgie*, February 10, 1891, states that Dr. Charles Leroux finds antipyrin of great value in chorea, good results having been obtained through its use in two thirds of the cases, in forty one out of sixty. It quickly diminishes the intensity of the disease and shortens its duration. Large doses are necessary, as much as three, four, or six grammes from the start, according to age. Children from six to fifteen years of age can tolerate and take with advantage doses ranging from three to six grammes for several weeks in succession.

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & Co., Nos. 56 and 58 Lafayette Place.

New York, March 7, 1891.

DISEASES NAMED FOR DOCTORS.

THE number of diseases with proper names is constantly on the increase, to the detriment of language and to the confusion of the general practitioner. Every one who describes or discovers some pathological entity of moment straightway foists his name, or others foist it, upon the unoffending peculiarity, and the result is an amount of lumber in regard to medical nomenclature that is fast becoming a definite obstacle to clear thinking and exact reasoning. There are now over one hundred and ten diseases, or symptoms, with proper names as marks of distinction. The busy scientific student may well be forgiven if, under the circumstances, Ritter's disease, the malady of Concato, together with that of Tomaselli, Donders, Corrigan, and Fouchard are all *x*, and represent to him an unknown quantity. It is possible to be brave, dutiful, and dominant, as Carlyle describes the apeptic man, and yet remain ignorant of Kennedy's paralysis, Riehl's tuberculosis, Worms's symptom, and Blainville's ear. Any one whose soul is not steeped in neuro-pathology will be pardoned here and hereafter for confounding the muscular atrophies that are forced by a perverse generation to parade as the type Duchenne (of Boulogne), Charcot-Maire's type, Erb's type, the Lyden-Möbiers, the Zimmerlin, and the Landouzy-Déjerine type. Clearness and terseness of description is also to be desired in the literary treatment of disease. Renant has recently described chronic essential segmentary myocarditis, and not content with three adjectives as qualifiers has bestowed upon the unfortunate noun his own name. Prolix and exhausting as exercises of memory are the cardinal symptoms of this new disease, to wit, true arhythmic multiform pulse, effacement of localized precordial impulse, together with rectangular dulness of the heart, and a medio-cardiac murmur. Pity the sorrows of a poor young student, at a final examination, before some obdurate professor who requires a description of Renant's disease (of Lyons), and refuses to be pacified by a carefully worded account of Raynaud's disease! Such modern tricks of naming things recall Talleyrand's witty remark that language is given us to conceal our thoughts. The thoughts of Raynaud and Renant suffer definite loss because their names qualify, in the grammatical sense, disorders of widely different nature. There is another side of the question, too, that is well worth considering. Who wants to stand sponsor for a disease? Who cares to have his name associated forever with some special form of pain and suffering, with limitations and inconvenience, with wakeful nights and unhappy days? An act, a method, an invention, or artifice for the relief and cure of abnormities, may well bear its author's name, and thus become a lasting encouragement to those performing in patient obscurity offices of drudgery along similar lines. However trivial the deed or contrivance, anything that makes the world brighter and better deserves honorable mention. But the sensitive must naturally shrink from giving a good name—perhaps a proud inheritance—to pathological processes that are necessarily vicious and destructive.

Taking language at its word, according to its spirit and the laws that govern it, the absurdity of the present practice becomes at once apparent. Judging by the simple meaning of the terms used Hutchinson has teeth and a triad, Morand has a foot, and Pott a disease, an aneurism, and a fracture. Jacob and Saemisch have ulcers, while Landry, Charcot, Gerlier, Kennedy, Parkinson, Erb, and Bell suffer from paralysis. Kopp and Millard are asthmatic. Westphal, Romberg, von Graefe, Möbius, Rosenbach, Parrot, and Guyon, all have symptoms. There are the laws of Boudin, Colles, Levert, and Stokes, as well as of the Medes and Persians. Paget has two diseases—one of the skin, the other of the bones. Hebra suffers from erythema, pityriasis, and prurigo. Duchenne is locomotor ataxic and has pseudo-hypertrophic paralysis. Cheyne-Stokes has uræmic respiration, and Argyll-Robertson a pupil. Hernia abounds. Astley Cooper, Cloquet, Béclard, Goyraud, Haselbach, Kronlein, Langier, Petit, Littre, Richter, and Velpeau have it in different forms. Hippocrates, Wels, and Corvisart, present a characteristic countenance. Huguier has uterine fibro-myomata, Thomsen a muscular spasm, and Volkmann a congenital dislocation. Basedow, Graves, and Parry are similarly afflicted with exophthalmic goitre. Boyer has a cyst, Gibbon a hydrocele, Dubini electric chorea, and G. de la Tourette motor inco-ordination with echolia and coprolalia. This is all rank and preposterous nonsense, yet so it is written. As far as the text is concerned there is no reason why it should not be believed.

The French, in whom taste and the sense of proportion are strongly developed, have begun a humble crusade against the foregoing pernicious practice of lumbersome and meaningless titles. The *Union Médicale du Nord-est* has a witty criticism on the subject, which is referred to at length in the *Gazette des Hôpitaux*, January 8, 1891. Language is a purely arbitrary thing, and as such demands infinite respect and countless efforts. Much mental confusion, ploughing around in bewilderment, retracing of steps, and the sad consciousness of time lost may be avoided by the use of words that are alive, words that would bleed if cut. Language is the test, the standard of mind. It is the gauge of difference between man and man, the measure of power and precision. Terms that refer to any exact science must be guarded as religiously as treasures of price, for false ideas rush in where words have no instructive value. Every one must be the debtor to his profession sufficiently to set his face resolutely against cumbersome nomenclature, and

resolve to call things by their right names, leaving the present senseless fashion of christening aches, pains, pathological processes and principles to die a natural death. The present method is unbusiness-like, inartistic, thoroughly rococo, and a great injustice to every one in search of facts. By systematic care in the use of words expressing abnormities now hiding behind the mask of a name belonging to some dying, dead, or living writer, a nearer view may be obtained, resulting in greater good to each and all concerned. To clear away rubbish is an occupation not without value. This particular form needs to be removed with all possible speed, to be seen no more upon the face of the earth, and remembered only as one of the vagaries of an epoch otherwise remarkable for progress and enlightened reason.

THE CURVE OF HEALTH.

Dr. Oliver Wendell Holmes has made a discovery. It is that of the law of the curve of health. "It is a mistake," he says, "to suppose that the normal state of health is represented by a straight horizontal line. Independently of the well-known causes which raise or depress the standard of vitality, there seem to be—I think I may venture to say there is—a rhythmic undulation in the flow of the vital force. The 'dynamo,' which furnishes the working powers of consciousness and action, has its annual, its monthly, its diurnal waves, even its momentary ripples, in the current it furnishes. There are greater and lesser curves in the movement of every day's life—a series of ascending and of descending movements, a periodicity depending on the very nature of the force at work in the living organism. Thus we have our good seasons and our bad seasons, our good days and our bad days, life climbing and descending in long or short undulations, which I have called the curve of health. From this fact spring a great proportion of the errors of medical practice. On it are based the delusions of the various shadowy systems which impose themselves on the ignorant and half-learned public as branches or 'schools' of science. A remedy taken at the time of the ascent in the curve of health is found successful. The same remedy taken while the curve is in its downward movement proves a failure. So long as this biological law exists, so long the charlatan will keep his hold on the ignorant public. So long as it exists, the wisest practitioner will be liable to deceive himself about the effect of what he calls, and loves to think are, his remedies."

The fact of the existence of the "curve" in question cannot be doubted; but Dr. Holmes exaggerates its importance and its amplitude and its constancy. In acute rheumatism, for example, the curve is quite knocked out, and the field is left very clear for salicylic acid. In ague and syphilis, in dysentery and pneumonia, the same may be said.

A person with a neuralgia or headache is, in time, perhaps, cured by his "curve," but who would deny the help meanwhile given by antipyrine. The curve of health in phthisis is a pretty steep decline, unless the geometrical disturbance is confronted with pure air and creosote.

The "brightique," no doubt, has his curve; but it, too, is all one way; the medical art can lessen its precipitance. We do not take so dark a view of therapeutics as was popular when Dr. Holmes said that if all the drugs of the Pharmacopœia were thrown into the sea it would be better for mankind but worse for the fishes. Matters have changed a good deal since that day. There is still an immense amount of useless drugging; but it is much less than it used to be. The nature of diseases, the action of remedies are understood vastly better than was formerly the case; and every few years something of positive advance continues to be made. Medicine is not in the year 1830.

THE USE OF EXTRA TITLES.

The use of extra and distinctive titles for medical men has always provoked discussion among those who have and those who have not the coveted appendages. The recent action of the Toledo Medical Association in resolving to dispense with all extra insignia of rank brings the general subject again to notice. While much can be said on both sides we confess ourselves in favor of such extra titles as guarantee the possession of extra knowledge or ability. It may sometimes be the question which is the greater, the man or his title, the officer or the office, the professor or the college, the surgeon or the hospital, and so on. Few men are so celebrated as to carry with their work the simple name as sufficient authority for *ex cathedra* statements. There are too few Hannibals, Cæsars, and Napoleons in our profession to make precedents in such a line. Consequently, when a man claims a right to speak from his experience, it is proper to prove his fitness by stating his position and title. But the latter must be distinctive, if it adds force to the arguments and statements of an author or teacher. We admit that such distinctions are invidious, but all distinctions are invidious. Because they are so, men are willing to work and struggle for them, and in so doing make themselves fit the positions when they attain them. We are well aware that the man of mere titles means nothing. Those of professor are in some quarters so common that it becomes a real distinction to be a high private. The fellowships to societies are too numerous to mention, while the medical air is literally swarming with buzzing dispensary assistants. There is a happy medium between the two extremes of magnifying an office or of abolishing it altogether. It becomes after all a matter of taste with each man when and how to name his titles. There is as much presumption sometimes in avoiding their use on the egotistical plea that the name itself is sufficient as there is in making the tail too heavy for the kite. At all events, we cannot legislate on taste or expediency in this matter, and we very much fear that the resolutions of the Toledo Medical Association will be whistled down the wind.

THE TETANUS POISON.

In our interest over the pathological work done by Koch and his German colleagues, the labors of the French bacteriologists are a little neglected. It should be remembered that if Koch is to be regarded in any wise as a father of bacteriology, Pasteur is the grandfather, and he and his pupils have done work which is historic in this field. The *Annales de l'Institut Pasteur* is the medium by which this work is put before the world, and its

issues rarely fail to contain the results of important observations.

Recently Drs. Vaillard and Vincent have published a paper upon the etiology and bacteriology of tetanus, which deserves attention. They describe, again, the specific organism of tetanus, and show that it is not this organism but a poison that it secretes which causes the phenomena of the disease. The poison in question only develops after the bacillus has grown for some time and reached the stage of spores; yet it is not the spores themselves that are poisonous. They further show that the poison is not a ptomaïne, or any substance which has the characters of an alkaloid or base. The experiments made by Vaillard and Vincent confirm the fact that the tetanus bacillus cannot grow in the human body without the presence of another micro-organism; in this respect resembling diphtheria. The disease is therefore, in a sense, one of mixed infection.

Such studies bring us nearer every day to the actual cause of infective disease, and with such knowledge a means of prevention or cure is only a matter of time.

A NEW BASE FOR DERMATOLOGICAL USES.

Dr. George T. Elliott has, with the help of a pharmacist, Mr. Lascar, devised a new base for dermatological preparations. The principal component is bassorin, one of the vegetable mucilages, this being united with water, glycerine, and dextrine. The compound is called bassorin paste, and it has, according to Dr. Elliott, many advantages over the gelatine base of Unna and other similar substances. It is, he says, perfectly neutral and non-irritating, produces no irritation whatever, and when used alone it acts simply as a protective to the skin. It does not become rancid, or decompose, or undergo change when kept for a length of time, unless it be exposed in an open vessel. When this is done it becomes dry and hard, but even then rubbing it up with a little water renders it again as serviceable as at first.

It is easy and simple in application, requiring only to be spread upon the skin with the finger or a brush. It dries in the space of a few minutes if so applied, adheres closely, does not rub off and soil the linen, but forms a flexible coat, which does not interfere with the movements of the body. When its removal is desired, the preparation can be washed off with a little water, or a damp cloth or sponge. It remains *in situ* without change for a variable length of time, depending upon the condition of the surface on which it has been applied.

With the bassorin paste almost any drug can be incorporated; those which exist in the form of powders, or in solid forms in any amount desired; the tars, ichthyol, and oily substances in smaller percentages, but sufficient for all practical purposes.

These properties possessed by the bassorin paste render it superior to ointments, for the reasons, among others, that it is difficult to keep the latter in constant contact with the diseased surface; that salves soil and stain the linen, and offer such other objectionable features as greasiness, risk of becoming rancid, etc., to say nothing of the discomfort entailed upon the patients using them. It is also of wider application than the collodions and traumaticins, owing to the irritation of the ether and chloroform contained in them, their contractile property, the limited extent of surface over which they can be applied, and the difficulty experienced in removing them when desired.

Dr. Elliott is enthusiastic over the new base, but as he has only tried it for about two months, it may be well to wait for further experiences before accepting all that is urged for it.

CONTAGIOUS DISEASES IN PUBLIC AND PRIVATE SCHOOLS.

Two cases of diphtheria of a malignant type were recently discovered in the family of the janitor of one of the large public schools of this city. One of the children died. In the meantime the scholars continued in their attendance, as the parents had not been notified. This has directed public attention to the question of janitors with families of children occupying portions of the public school buildings, and Dr. Edson, of the Board of Health, has taken up the matter. During the past year there have been brought to the notice of Dr. Edson no less than six instances of diphtheria among the children of janitors living in public schools, and as this gentleman holds some decided opinions about the advisability of this practice continuing, it is probable that some action may be taken to lessen the dangers incurred by the thousands of children who attend the city's institutions of learning. In this connection it is gratifying to note that, as the result of a communication to the Record of January 10th, by Dr. Charles W. Allen, calling attention to the prevalence of contagious diseases in the families of Russian pedagogues who maintain private schools in their dwelling apartments, the Board of Health has carried out an investigation which showed the condition of these tenement schools to be so bad that a number have already been ordered closed. The Board of Health has in contemplation an amendment of the Sanitary code which will do away with this danger, by limiting schools in tenements to those authorized by the Board. This action is most commendable, for the very thought of twenty to forty growing boys being crowded into a dark, dirty dwelling room where one of the teacher's children is sick with scarlet fever or diphtheria is most revolting, and at variance with our ideas of the fitness of things in this stage of our march toward a higher civilization. In the public school the pupils may not be much more exposed from the sickness in the janitor's apartments than if he lived next door, and the fact that no outbreak among them has as yet occurred in any of the instances mentioned would go to confirm such a view; still, none of us would care to send our children into a school building where such a dread disease as diphtheria was known to exist.

In the case of the tenement school the pupil is thrown into direct contact with the disease often for several days before its true nature is discovered, and from the reports of the unhygienic condition of these school-rooms it is a question whether any amount of disinfection can render them wholesome and free from subsequent danger. It would seem that the average public school building in New York is not a desirable place to bring up a family of children, if we can judge from the number of contagious diseases occurring in the janitors' quarters;

but whether this will prevent family men from accepting the positions and thus lead to a self-regulation of the matter, or whether the janitor of the future will be condemned to a life of celibacy remains to be determined. One thing, however, is sure, and that is that the tenement house school, as it now exists, is a danger to public health and a disgrace to the city, and the sooner the school and the teacher's family become separate institutions the better it will be.

FREQUENCY OF PLEURITIC ADHESIONS.

A SHORT article upon this subject in the "Annual Report of the Supervising Surgeon-General of the Marine Hospital Service for 1890," by Surgeon Banks, is well worthy of attention. Desiring to obtain an intelligent conception of the frequency with which pleuritic adhesions exist in persons who present no history of pleurisy, Surgeon Banks has made a careful search through the Marine Hospital necropsy records of the past ten years for statistics bearing upon this subject. In the ten years since 1881 he finds 1,356 complete necropsies in which mention is made specially of the state of the pleura, or in which it may be safely included in the general statement that "with the exception of those organs named, all other organs were healthy." Of these 1,356 necropsies, 527 were classed apart by themselves, 156 of them being on pneumonic, and 371 on tubercular patients. In the 371 cases in which the patients had died from tubercular or from acute or chronic pneumonic phthisis, pleuritic adhesions were found 279 times (seventy-five per cent.); and in the 156 cases in which death had resulted from acute pneumonitis, pleuritic adhesions were found 112 times (seventy-one per cent.)

Especial attention is directed to the remaining 829 necropsies, since they were done upon the bodies of patients who had died of disease not immediately affecting the pulmonary tissues and who had presented no history (according to the hospital records) of pleuritic disease. In 322 (forty per cent.) of these cases the necropsy revealed pleuritic adhesions, varying from local adhesive threads to complete union of the lung and chest wall, too firm to be broken.

The practical lesson which Surgeon Banks draws from these observations is that slight attacks of pleurisy must be very frequent, although they either pass unheeded or are mistaken for simple neuralgia. In all cases of persistent thoracic or costal pain, attended by a sense of discomfort upon deep inspiration, the physician should take into consideration a possible inflammation of the pleura and would do well to seek a definite diagnosis. This effort should be made at the first onset of the trouble, for in the simplest forms of pleuritis the characteristic friction-sound is heard only during the first two or three days, and although adhesions of considerable extent may form there may not be enough exudation to attract attention.

After adhesions have once formed we have no means of releasing the attached surfaces, unless a course of pulmonary gymnastics, as suggested by certain observers, can bring about such release in recent cases.

It is suggested that in cases in which percussion and auscultation fail to elicit dulness or to reveal disease-sounds, yet in which the inspiratory expansion is subnormal, there are probably loose fibrinous pleuritic adhesions present—the evidences of their formation and persistence having been either ignored or forgotten by the patient.

Although the subject of the diagnosis and treatment of pleurisy with adhesions is one of great difficulty, yet the intelligent physician will welcome even purely statistical information such as the paper furnishes, as affording an incentive to greater earnestness in clinical observation.

News of the Week.

Professor Tyndall has just recovered from an attack of insomnia, associated with phlebitis.

The Cantharidate-of-Potash Cure for Tuberculosis.—Professor Liebreich, of Berlin, is a chemist of acknowledged reputation; hence his assertion that he has a remedy which is useful in phthisis attracts some attention. All that we can learn is that the substance is cantharidate of potash, that it is used by hypodermic injection, and that it has been tested clinically by Drs. Fraenkel and Hoffmann, who confirm in a measure the claim for its remedial value. Meanwhile the French physicians are using goat's blood and dog's serum with excellent results; and we are not likely to be without a new phthisis cure for some months to come. Meanwhile the mortality from phthisis in this town continues to be about one hundred per week.

An Institute of Preventive Medicine.—Steps are being taken in London to found an Institute of Preventive Medicine, with the following objects: To provide a place in which researches may be carried on with a view of finding the means for preventing and curing infective diseases in man and the lower animals. To provide education in preventive mecicine for medical officers of health, veterinarians, etc. To treat persons suffering with infective diseases, or threatened with them. To found laboratories, libraries, etc. It is probable that the institute may be located in Cambridge.

Tuberculin.—In a discussion on Koch's curative lymph before the Association of Berlin Surgeons, February 9th, (*The Lancet*) Professor Sonnenberg showed a female patient who had been almost entirely cured of extensive lupus. She has been treated by Koch's method since October. She had been treated without success before by other methods. Professor Hahn said that he had found it advantageous to puncture the parts affected by lupus during the administration of Koch's fluid. Dr. James Israel reported a case of indubitable lupus, in which there was no local reaction whatever. Dr. Lindner, of the Augusta Hospital, has in most cases observed no reaction, either local or general, or hardly any, after the injection for lupus, but has, nevertheless, obtained favorable results. Professor Bardeleben declared it a great mistake to pronounce a final opinion upon Koch's method yet. Dr. Koerte, of the Hospital am Urban, stated that in most of his cases the morbid phenomena altered only a little under Koch's treatment; but he, too, has seen isolated cases of improvement. Dr. Bartels raised the question whether general miliary tuberculosis had been observed in patients

with surgical tuberculosis after Koch's injections. None of the surgeons present had seen any such effect. Professor Bardeleben said there was no doubt that general tuberculosis and tuberculous meningitis might set in during the application of Koch's method, but it was hard to say whether they were due to the injections.

Medical Books.—In 1889 about 133 new medical and surgical works emanated from the press, and 49 new editions of old or standard works. In 1890 the number ran up to 143 new works, and there were 50 new editions. On the other hand, theological, fictional, and historical literature show a marked decrease in the number of new volumes published.

The State Medical Societies begin their work next month, and the following are the dates: South Carolina Medical Association, April (date and place not known); Florida Medical Association, Pensacola, April 14th and 15th; Medical Society of the State of Tennessee, Nashville, April 14th, 15th, and 16th; Medical Association of the State of Alabama, Huntsville, April 14th, 15th, 16th, and 17th; Mississippi State Medical Association, Meridian, April 15th, 16th, and 17th; Medical Association of Georgia, Augusta, April 15th, 16th, and 17th; Iowa State Medical Society, Waterloo, April 15th, 16th, and 17th; Medical Society of the State of California, Sacramento, April 21st, 22d, and 23d; Medical Association of Montana, Helena, April 24th and 25th; Medical and Chirurgical Faculty of Maryland, Baltimore, April 28th, 29th, and 30th; Texas State Medical Association, Waco, April 28th, 29th, and 30th, and May 1st; State Medical Society of Arkansas, Hot Springs, April 29th and 30th, and May 1st.

A Republican's Point of View.—It is far easier to destroy than to construct. For the first time in a generation the Democratic party has control of the State of Michigan. As a result, it seems to have awakened from a Rip Van Winkle sleep, and proceeds to reduce public institutions to a condition suitable for thirty years ago. The State Board of Charities and Correction, the State Board of Health, etc., are marked for destruction, and the State has returned a long way toward an antiquated civilization.—*Peoria Medical Monthly.*

A Medical Hat.—Certain enthusiastic gentlemen have proposed that doctors distinguish themselves by wearing an olive-green button. An English doctor suggests in the *Lancet* that a special hat be adopted, and the suggestion is warmly received by a colleague, who writes: "It seems to me that the suggestion of your correspondent in today's issue, that medical men should wear a distinguishing hat, is one which commends itself to everybody. I would, however, suggest that as conspicuousness seems to be an object of your correspondent, it is a pity to adopt a hat with a low crown. Why not have one with a decided length of cylinder—let us say three feet long? It would be so readily discerned at a distance. Further, in order to render the doctor still more easily recognized, I would propose to have the tile painted sky-blue and varnished, or decorated in any other manner to suit the taste of the wearer, after the style of the gentlemen of the ring on the racecourse. And while on this subject, why limit oneself to a hat? A fancy dress or a Pickwickian costume would look picturesque, and, I am sure, would not fail to attract the attention of strangers and others who might be requiring the services of a medical man. The subject is one that is capable of vast extension, and I doubt not would be readily adopted if properly brought to the notice of the leading members of the profession."

Professor Dr. Edmund Hartnack, the eminent optician, is dead. He died at Potsdam, where his optical institute was. Before 1870 he lived in Paris, but, after the war broke out, he returned to Germany. He is believed to have been the first to introduce immersion into microscopy. His microscopes quickly obtained a European reputation, and it is not too much to say that indirectly we owe to him much of the progress of modern medicine. The University of Bonn made him Doctor *honoris causa* in 1868; the honorary title of "Professor" was conferred on him by the Government.

The "Bill to Regulate the Practice of Medicine and to create a Board of Medical Examiners in Texas," prepared by the Committee on Medical Legislation of the Texas State Medical Association, was introduced into the Texas Senate on February 14th, and was referred to the Committee on Public Health. It was reported upon favorably by the committee, and recommended for passage with an amendment striking out section 10, which relates to revoking licences for unprofessional conduct. It will go to the House shortly, and will, in all probability, become a law.—*Daniel's Texas Medical Journal.*

The Ice-Cradle to Reduce Temperature.—The ice-cradle is an arrangement by which a constant current of cool air can be brought into immediate contact with the surface of the body, and thus bring about a reduction in its temperature by direct abstraction of heat. This method was originally introduced by Dr. Samuel Fenwick as a substitute for the cold bath in the treatment of typhoid fever, and with this object it has now been used for many years in his wards at the London Hospital, with the most excellent results. It consists essentially of an iron surgical cradle, from the central bar of which are suspended several small zinc pails half-filled with ice. The patient lies undressed upon the bed, and the cradle, covered by a light counterpane, is placed over him. In order to prevent any feeling of chilliness a hot-water bottle is kept in contact with the patient's feet. The ice in the pails is renewed at intervals, and it is found convenient in practice to cover the bottom of the pails with a piece of lint in order to prevent any condensed moisture from dripping upon the body of the patient. In default of the iron cradle, a very good substitute can be easily made with a piece of strong wire, or from two wooden hoops sawn through the centre. Under such an arrangement a patient may lie for many days, the utmost required being to replenish the ice-pails, and occasionally to renew the hot-water bottle at the feet. Although the mean temperature of the cradle can rarely be reduced more than a degree or two below that of the surrounding atmosphere, it usually suffices to effect a reduction of several degrees in the temperature of the room and maintain it there.

Dr. John R. Howe, who had been one of the prominent physicians in Ontaria County, N. Y., for forty years, died at Phelps, N. Y., February 26th, aged seventy-one.

Death of Dr. Hosmer Allen Johnson, of Chicago.—Dr. Hosmer Allen Johnson, one of the oldest, as well as one of the ablest, practitioners of Chicago, died at his home in that city on February 26, 1891. For some weeks he had been in failing health, resulting finally in fatal heart decline. For nearly forty years Dr. Johnson had been prominently identified with medicine and surgery in the several capacities of practitioner, writer, instructor, and State official. He was instrumental in founding one college, taught in another, and his contributions to the medical press are many. He was characterized by a broad sense of the noble in professional ethics. Dr. Johnson was not a specialist, but had that wide learning which marked him all through life as a leader. He had a warm, generous heart, and a multitude of people loved him because of those kindlier qualities which do not always go hand-in-hand with professional distinction and learning.

The New Lunacy Bill.—A bill has been introduced in the New York Legislature to repeal the "State Care of the Insane" act, and to provide that every insane asylum shall have a board of twelve trustees and managers, seven men and five women, who shall be elected by the people of the city or town where the asylum is located, and who shall have entire control and management of such asylum. The passage of such a bill would be a step backward. The State Commission in Lunacy, which now has control of the asylums has brought about system in the methods of book-keeping, has raised the standard of medical attendance and nursing, has reduced the per capita cost of patients, and made many improvements which from time to time have been noted in the RECORD. The centralization of power works to advantage in all great systems, notably those of the Canals and Education, and it has proved of inestimable value in the administration of the affairs of the asylums. The argument against the establishment of boards of managers of twelve members each are innumerable. In the first place they are unwieldy, too large for efficiency; secondly, system and uniformity are entirely lost. The arguments for State care and not county care of the insane are so strong and so well known that few disinterested physicians favor the latter. The bill pending should and probably will fail in passage, and the profession should direct every effort to gain that disposal of it.

Medical Italian Senators. — Dr. Giulio Bizzozzero, Professor of General Pathology in the University of Turin, and Dr. Ottavio Morisani, Professor of Obstetrics in the University of Naples, have been named Senators of the Kingdom of Italy.

The Largest Dose of Tuberculin yet administered to a human being is four hundred milligrammes. It was given by mistake to a patient who should have received only forty milligrammes. The patient had phthisis complicated by intestinal tuberculosis, and had been under treatment for some time. The symptoms following the injection of this excessive dose were merely those of ordinary reaction of moderate intensity. Dr. Teleky, who reported the case at the last meeting of the Vienna Medical Society, stated that the reason why more severe symptoms were not observed was doubtless due to the fact of personal idiosyncrasy. The patient had never responded to the previous injections by high reaction temperatures, or other violent symptoms, and had developed considerable tolerance to the lymph. The next highest dose hitherto employed was that of two hundred and fifty milligrammes, which Dr. Koch used on his own person. In Dr. Teleky's case the physical signs of the patient were not materially altered by the enormous dose of lymph administered.

Cholera in the Russian North Pacific.—Cholera is still causing great ravages at Vladivostock on the Russian North Pacific coast, the Mansas and the Coreans being the chief victims. There seems to be an utter disregard of sanitary precautions, while such abuses as the casting of the dead into the bay still go on.

An Old Surgical Bill.—Dr. Charles E. Slocum, of Defiance, O., writes: "The Old Surgical Bill which was copied in the MEDICAL RECORD of February 14th has interested a goodly number of readers, as evidenced by the number of communications regarding it received by me. At this date the greater number prefer to read 'weuing the bodie' as viewing the body for the coroner, or as a form of coroner's inquest."

Section in Genito-Urinary Surgery of the New York Academy of Medicine.—A regular meeting of the Section was held on the evening of February 12th. Dr. R. W. Taylor was elected chairman, and Dr. Samuel Alexander, secretary. Dr. George H. Fox presented a case of papular syphilis in groups, and made some remarks upon the diagnosis of cutaneous syphilis which he illustrated by original photographs. Dr. R. W. Taylor reported three cases, viz., traumatic hyperplasia of the vulva; syphilitic hyperplasia of the vulva, and epithelioma of the penis not involving the glans. Water-color drawings of these lesions were shown. The following papers were read: "Report of a Case of Papillary Adeno-carcinoma of the Bladder, with some Observations upon the Diagnosis of Small Papillary Fibroma of the Bladder," by Samuel Alexander, M.D., and "The Contagiousness of Chronic Urethral Discharges," by George E. Brewer, M.D. These papers were discussed by Drs. Sturgis, Bangs, Bache-Emmet, Morrow, Brown, Otis, and Taylor. The next meeting of the Section will be held on Thursday evening, March 12th, at eight o'clock.

None but Bona-fide Diplomas Recognized.—The Illinois State Board of Health has decided that hereafter it will recognize no foreign diploma that does not confer upon its holder the right to practise medicine in the country in which it was granted. The holder of an Austrian, a German, Russian, or Swiss diploma, wishing to practise in Illinois, must hereafter pass an examination before the Board, unless he have a pass certificate from a Government examining commission. The holder of a Canadian diploma, unless a licentiate of the Colleges of Physicians and Surgeons of Ontario and Quebec, must pass an examination in order to be licensed in Illinois.

Dr. W. W. Dale, a leading physician of Southern Pennsylvania, died at Carlisle, February 26th, of pneumonia, aged seventy-four years. He was a member of the State and County Medical Societies.

Reviews and Notices of Books.

Transactions of the Gynecological Society of Boston. New Series. Vol. I. Cloth, pp. 396. Illustrated. Boston: Cupples & Hurd.

This Society was founded almost a quarter of a century ago. On its rolls are one hundred and three active and honorary members, and over six hundred corresponding members, including the brightest and most famous gynecologists in the world. Seven volumes of its "Transactions" (1869–72) have been published. So appreciated was their value that the several editions were long ago exhausted, and the volumes cannot now be obtained. They are frequently referred to in the works of gynecology issued in both hemispheres, and a considerable portion of the American cases quoted by the late Professor Schroeder, in vol. x. of "Ziemssen's Cyclopædia," are taken from the work. This new volume is equally as valuable as its predecessors. It is written, in large measure, by the same authors, prominent among whom is Dr. Henry O. Marcy, who was President of the Gynecological Section of the International Medical Congress held at Washington three years ago. He contributes an invaluable paper on "The Perineum, its Anatomy, Physiology, and Methods of Restoration after Injury." He not only clearly defines his own excellent operation, with illustrations, but gives a *résumé* of other accepted methods. He also writes of bacteria, which subject is further elucidated by Drs. Ernest W. Cushing and Samuel N. Nelson. That brilliant old veteran, Dr. Henry M. Field, gives his "Treatment of Constipation," and in another paper, on his "Errors," decries the use of the speculum, nitrate of silver, and the too frequent use of the uterine sound. Dr. J. Collins Warren, of Harvard, contributes an admirable paper on "Diagnosis and Treatment of Cancer of the Breast." Dr. W. Symington Brown treats of "Chronic Cystitis;" Dr. Moses D. Church, of "Post-Uterine Abscess;" William G. Wheeler, one of the founders of the Society, of "Septicæmia." "Abortion and Premature Labor" are discussed by Dr. J. E. Kelly and Dr. Elizabeth C. Keller. Dr. Kelly's paper caused wide discussion, and his suggestion to submit all cases of abortion to a board of medical men, specially appointed, received a great deal of attention. In the line of therapeutics, the volume contains articles on "Corrosive Sublimate and Ergot," by Dr. Charles W. Stevens; "Chloral," by Marshall L. Brown; and "Electricity," by Augustus P. Clarke. There is a good article on "Forceps," by Samuel N. Nelson; and Dr. Helen L. Betts, a bright, brainy woman, writes on "Dress" in a most interesting and instructive manner. There are other papers equally worthy of mention, twenty nine in all, making a book that is a valuable addition to any physician's library.

Description of the Johns Hopkins Hospital. By John S. Billings, M.D. Baltimore: Press of Isaac Friedenwald.

Eighteen years ago Johns Hopkins made one of the most munificent gifts to medicine that the science has ever known, namely, three and a half millions of dollars, for the building and support of a hospital in Baltimore. As Dr. Billings says, it was the donor's idea to provide proper care of the sick, both rich and poor; to provide for the highest class of medical education; to increase and diffuse knowledge; to provide trained nurses for both hospital and city; to provide a dispensary, and to make the buildings and grounds ornamental and attractive. It was to compare favorably with any other institution of like character in this country or in Europe. After Mr. Hopkins's death the trustees named in the will selected five famous men, skilled in hospital lore, to give their ideas of a perfect hospital. The great hospitals of the East were visited and inspected; one of the essayists was sent abroad, and then, with the aid of an architect, the suggestions and plans thus gained were formulated, and the ideal hospital placed on paper. Unlimited resources carried out these plans, and to-day there stands in the eastern part of Baltimore a hospital which has no superior, and few, if any, equals in the world. In every respect—beauty, utility, drainage, ventilation, comfort, etc.—it is perfectly equipped. It would be interesting and instructive to know the exact cost of these buildings. We think the trustees are hardly justified in the secrecy maintained on this point. This volume, by Dr. Billings, gives its history from its conception to its completion, with a minute description of its every detail. It is superbly printed, a model of typographical art, the plates of which there are fifty-six, being especially worthy of unstinted praise. As a contribution to the literature of hospital construction the work cannot be overestimated. It will be of immense value to builders of hospitals in the future, and in the present is of interest to every educated man, whether he be in the medical profession or not. The book also contains Dr. Billings's dedicatory address, which is written in his usual bright, forcible style.

Progressive Exercises in Practical Chemistry. By Henry Leffman, M.D., Ph.D., and William Beam, M.A. Pocket note-book size, 102 pages. Philadelphia: P. Blakiston, Son & Co. 1890.

This manual includes the methods of laboratory instruction as given in recent years in two of the medical institutions with which the authors are connected. It contains a general description of apparatus and manipulation, followed by an outline of general chemical principles. Then come exercises in the chemistry of the important elements. It is an excellent aid to the home study of chemistry, and written in good, intelligible English.

Rheumatism and Gout. By F. Le Roy Satterlee, M.D., Professor of Materia Medica, New York College of Dentistry, etc. Pp. 84. Detroit: George S. Davis. 1890.

It is always interesting to read the opinions of a practitioner on the old and common maladies. The writer informs us that he himself was a sufferer from an inherited rheumatic and gouty dyscrasia, and was thus led to a close study of these two diseases. His views on pathology are orthodox, and he accepts the uric-acid theory of causation, but is willing, also, to admit that there may be added the influence of some specific germ yet to be demonstrated. It is in the sections on treatment that we notice most strongly his individual views. In acute rheumatism he gives alkalies up to the point of saturating the system. He "does not approve of, or recommend, the employment of salicylic acid or the salicylates." These remedies may relieve the pain promptly, but they are uncertain, transient, and depressing to a dangerous degree. For the fever antipyrine and its congeners are strongly urged, and the suggestion is made to add one-half a grain of powdered digitalis to each dose thereof. In acute gout, again, he protests against the use of any form of colchicum. Patients soon learn to use it themselves, and he regards many of the sudden deaths among the older wealthy classes, occurring from so-called "heart failure," as really due to the improper use of colchicum. Its effects are transient, and its depressing action on circulation, digestion, and muscular tone render it a dangerous remedy. Alkaline treatment is the one recommended, with a judicious use of cholagogues. Euonymin seems to hold a high place in the writer's regard.

Saunders's Medical Lexicon. By John M. Keating M.D. Philadelphia: W. B. Saunders. 1890.

A vest-pocket lexicon with brief yet complete definitions, and a valuable list of etymological factors common in medical terminology. It is brought down to the very latest nomenclature in even the newest departments of medicine, and is a credit to both author and publisher.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON SURGERY.

Meeting of January 12, 1891.

ROBERT ABBE, M.D., CHAIRMAN.

Election of Officers.—DR. WILLIAM T. BULL was elected Chairman, and DR. CHARLES A. POWERS, Secretary, for the ensuing year.

Removal of the Hypertrophied Median Lobe of the Prostate.—DR. R. F. WEIR presented a man, aged fifty-seven, on whom he had performed supra-pubic cystotomy for vesical stone, and through the opening thus made also removed the hypertrophied median lobe of the prostate. The man had had to use a catheter for seven years, and six months previously the end of the instrument, which had become swollen and brittle from use, broke off in the bladder, and formed the nucleus of a stone of considerable size. The man made a satisfactory recovery from the operation; in four weeks the supra-pubic wound had closed, the urine passed through the natural channel without the aid of a catheter. The amount of residual urine did not exceed two drachms.

There was considerable oozing where the median lobe of the prostate had been cut away with the curved scissors, and it was not completely controlled until iodoform gauze had been introduced. This was left in twenty-four hours, and not only checked hemorrhage, but seemed to disinfect and keep the bladder sweet. He remarked that removal of the prostatic obstruction was proper only where the changes in the kidney had not advanced far. The use of the scissors in removing the enlarged lobe had not proved satisfactory, and he proposed to use Mackenzie's tonsillitome on the next occasion.

Trephining for Traumatic Epilepsy—Re-implantation of Bone.—Dr. Weir presented a second patient, a man, aged fifty-three, who had sustained an injury of the forehead when seventeen years of age from the explosion of a musket. The injury left a depressed portion just above the right eyebrow. Epileptic seizures appeared and progressed until their recurrence was as often as five times a day. In 1885 Dr. Weir trephined over the depressed portion of bone, removing a piece which had a knuckle on its interior surface. It was smooth, non-adherent to the dura mater, but encroached on the cranial cavity. The operation relieved him to a certain extent, but it was difficult to say how much, since almost all epileptics were relieved in some degree for a time following such operations. The attacks having recurred in 1887, Dr. Seguin saw the patient with him, and although, as might be expected, there were no muscular group symptoms, they decided, in the light of recent cerebral surgery, to perform a second operation. A longer opening was made, extending upward, the dura was cut, and the brain examined carefully, but nothing was found further than a strong adhesion between the dura and pia near the original opening. The three disks of bone were replaced and the interspaces filled in with bone chips. The wound healed favorably, and the man had subsequently only from one to three epileptic attacks a month. He was able to attend to his business fairly well. The speaker thought that, as a rule, we could hope to get improvement from trephining for epilepsy, especially in cases of idiopathic local character, but seldom did an entire cure take place. Since the last time he had seen this patient a pulsation had become visible about the original seat of injury, showing that the re implanted bone at that point had become absorbed. It was the rule for a depression to form where the bone had been re-implanted. He had feared irritation might result from the slight asperities on the re-implanted chips of bone, but this had not been the case, and doubtless the asperities had become absorbed.

Dr. Weir said that in 1887 he trephined and removed an infiltrating sarcoma of the brain, and, as was expected, rapid recurrence took place; but owing to the freedom for expansion allowed by the cranial opening, the man was in much better condition for some time, and death did not finally take place until three years after the operation. He had advocated trephining, without replacement of the bone disks, for pressure symptoms, since 1886. Through the opening further exploration could subsequently be made if indicated.

Permanent Supra-pubic Drainage.—DR. WILLY MEYER, in opening the discussion on Dr. Weir's first case, presented a man, fifty-eight years of age, on whom he had operated in the summer of 1889 by supra-pubic cystotomy. The patient had had trouble with urination for eight years, and one night when Dr. Meyer was first called to see him he was suffering from complete urinary obstruction, demanding supra-pubic puncture. Thinking from the symptoms that there might be a bladder tumor or stone, he shortly afterward performed supra-pubic cystotomy, and at the same time removed the enlarged median lobe of the prostate. The lateral lobes were also very large. Suspecting pyonephrosis, he thought it best not to close the supra pubic opening, and thus avoid possible injurious consequences from residual urine. The urine was conducted out of the bladder through a soft-rubber tube passing through the supra-pubic fistula, held in place by aid of a hard-rubber plate which it penetrated. By lowering the outer end of the tube and taking out the cork the urine was caused to flow. None escaped around the tube at the point where it penetrated the abdominal walls. The patient had remained healthy and comfortable since the operation in 1889.

An Extemporized Method of Supra-pubic Drainage.—DR. A. P. GERSTER said that where a special instrument could not be procured for draining the bladder, one could puncture above the pubes with the trocar, leave the trocar cannula in until an elliptic-shaped fistula formed, then introduce a soft catheter and fix by safety-pin and adhesive plaster. He had seen the method work well, without leakage taking place. Some degree of judgment must be used in selecting cases suitable for removal of the obstructing median lobe of the prostate. If the bladder had lost its contractile power, all the urine would not be expelled, even after complete removal of the obstruction. The method of packing the bladder with iodoform gauze, mentioned by Dr. Weir, was a well-established one. The hemorrhage was checked by it not so much from pressure as from the coagulated mass which promptly became interwoven with it.

Maniacal Insanity relieved by Trephining.—The CHAIRMAN said, with regard to Dr. Weir's second case, that it suggested the propriety of repeated trephinings for epileptic and mental symptoms. In the case of a boy with symptoms approaching maniacal insanity he had given relief for six months after trephining, and he now thought a second trephining, after return of the symptoms, might afford renewed relief.

Prefers the Chisel to the Trephine.—DR. GERSTER thought it was not uncommon for the dura mater to be injured by the trephine. He now used the chisel only, and believed it was destined to entirely replace the trephine, as it had in operations on the mastoid process. He had found that the chips could be successfully replaced. He emphasized the point made by Dr. Weir, that the button, in certain cases, should not be replaced, thus obviating intra-cranial pressure and permitting of subsequent exploration. In trephining in one case of Jacksonian epilepsy he had not replaced the button, thus leaving the dura free to expand and giving a chance for future local treatment if thought desirable. Thus far the seizures had ceased.

DR. WEIR said he had seen no ill effect from injuries to the dura mater with the trephine. He had seen the chisel used and impinge so strongly upon the dura as to do as much harm as could result from the trephine. In

short, he did not think the chisel had great advantages over the trephine.

Cholecystotomy for Biliary Calculi.—Dr. A. G. Gerster then presented a married woman, thirty-one years of age, who first had an attack, apparently of biliary colic, three years ago. She had had two or more attacks since. When he saw her, in consultation, after an attack, a small "lump" could be felt in the right hypochondriac region, which was very sensitive to the touch. Besides three severe seizures, there was almost continuous slighter pain in this region. No jaundice; appetite good. Dr. Gerster advised an exploratory incision, having first made a diagnosis of distention of the gall-bladder. An incision was made, parallel with the lower border of the ribs, a distance of three or four inches, and on reaching the peritoneum, a rounded tumor bulged up which was recognized as the gall-bladder. Two silk sutures were put into the wall of the tumor, by which it was drawn into the aperture and stitched to the parietal peritoneum all round. The gall-bladder was then incised, and he was surprised to find the walls nearly an inch thick. A considerable quantity of very dark bile escaped, but the presence of stones did not become evident until the opening had been dilated. Sixty-six small stones were removed which had facets. A probe was introduced a distance of three inches into the cystic duct before it came in contact with a stone. This stone had been felt by palpation before the gall-bladder had been opened. It was fully an inch in diameter, and considerable difficulty was experienced in removing it. Finally he dilated the duct sufficiently, and caught the stone with a pair of forceps and removed it. No more stones could be felt, and he dressed the wound in the usual fashion, and introduced a drainage-tube. The patient did well, but continued to have constant pain in the region of the gall-bladder, and over two weeks after the operation the probe passed into the wound left by the drainage-tube came in contact with a stone. The aperture was dilated with a cupola tent, and three more stones were removed. They had apparently been in the cystic duct previously. She was discharged cured about four weeks later, but afterward had further pain, and Dr. Gerster being disposed to think this due to stone in the cystic duct, advised massage. This was practised two or three weeks, after which the pain ceased. The general condition of the patient had since improved very much.

Dr. Weir, in commenting upon these cases, cited one which showed that the stone could be dislodged by massage as Dr. Gerster had suggested, and also stated that the common duct could readily be explored by the steel sound, No. 8 or 10.

Dr. B. F. Curtis said that, eighteen months ago, he had operated upon a case which showed the objection to suturing the gall-bladder to the parietal wound before incising it. The case was also interesting as illustrating the difficulties in the way of diagnosis. The liver was displaced so far downward that it was supposed to be the large intestine full of fæces, while the distended gall-bladder was supposed to be a perityphlitic abscess. Exploratory incision revealed the liver and gall-bladder, and he sewed the latter into the wound and opened it the following day. A large stone could be felt near the cystic duct, but it could not be removed. Failing, a week later, to remove the stone, they put the patient under ether, and after many attempts succeeded in removing one stone, when they felt still another impacted in the cystic duct. He made an incision in the median line parallel to the first, and then, with the little finger in the abdominal cavity, and instruments in the gall-bladder, they succeeded in crushing and removing the stone. It had been adherent over nearly its entire surface to the mucous membrane, which made it impossible of removal until it had been crushed. He thought that if, at his first operation, he had gone on to incise the gall-bladder and remove the stones, the patient would have been subjected to less risk, for at the second operation he had to make a fresh opening and expose the peritoneum to discharges from the previously made and granulating wound. The patient, however, made a good recovery.

The Chairman said, regarding the great hypertrophy of the walls of the gall-bladder in Dr. Weir's case, that two years ago he had a case in which they were so thick that they suspected cancer. After the operation, however, the hyperplasia disappeared until no tumor could be felt.

Total Extirpation of the Larynx—Artificial Larynx.—Dr. Willy Meyer related the case and presented the patient.

Simple Apparatus for Permanent Supra-pubic Drainage.—Dr. L. B. Bangs presented the instrument, which consisted of a hard-rubber plate moulded by dipping into hot water to snugly fit the abdomen. Under it was a felt plate, which the patient found pleasant to the feel, and could renew with very little expense. Through these the tube or catheter passed into the bladder. The tube could be renewed at little expense independent of the plate.

Luxation of the Patella.—Dr. W. R. Townsend presented a negro girl, of about seventeen years of age, who by muscular contraction could dislocate the patella outward and replace it. Before treatment by fixation she had been able to dislocate it within also. It did not pass beyond the condyles. The parents said it had occurred from their earliest recollection, and was probably a congenital peculiarity. It had given her some trouble, especially as a child, when starting to run. Such cases were rare.

Recurring Luxation of the Lower Jaw.—Dr. Townsend also presented a woman, fifty-three years of age, who had been much troubled by recurring dislocation of the lower jaw since about five years ago, when a dentist used some force in taking a cast of the upper jaw. She could now keep the jaws in normal apposition only by holding the mouth shut, and during sleep the lower jaw would slip forward.

Dr. Ridlon said he had seen two cases of voluntary dislocation of the patella in the service of Thomas, of Liverpool, one of which had been cured by hammering the outer condyle with a wooden mallet, setting up a bony exostosis which prevented the patella from sliding outward.

Dr. Kammerer said he had presented to one of the city medical societies an aged woman who had complete congenial dislocation of the patella outward *over* the condyle. She could not produce the displacement voluntarily.

Dr. Ketch had seen only one case which properly came under this class, a boy, who had unilateral dislocation of the patella, together with genu-valgum. Usually the dislocation was bilateral.

Dr. C. A. Powers thought the trouble in treating luxations of the jaw successfully was the same as that which applied to dislocations of the shoulder, the member was not fixed long enough after reduction. He thought that in this woman's case the jaw had probably been dislocated while the dentist was putting in the plate, and he replaced it without her knowing it, and afterward she did not keep her jaw still.

Refracture of the Radius.—Dr. B. F. Curtis presented a young man who, fifty-five days after treatment for Colles's fracture of the radius by Dr. Powers, had a refracture brought about by exertion in trying to save himself from a fall while climbing a ladder. The amount of callus from the double injury was not very great; the functional result was good. Refracture was very rare, and only three cases out of forty-five, which he referred to, had occurred in the bones of the forearm. Another interesting fact in the case was that the refracture had been produced simply by traction.

Dr. Powers thought it very difficult to refracture the bones of the radius after four or five weeks. The only case of Colles's refracture which he had seen had been in a man with a distinct syphilitic history, and he attributed it there to syphilitic softening.

Spring Speculum for Overcoming Anchylosis of the Lower Jaw.—Dr. Powers presented a spring speculum, the jaws of which were separated by loosening a screw, for insertion between the jaws in fibrous anchylosis. It was less uncomfortable to the patient than the springless instrument usually employed, and gradually overcame the fibrous anchylosis. He had treated three cases, two of which seemed to have arisen from fixation long continued through irritation of the fifth nerve.

On retiring from the chairmanship, Dr. Abbe made some remarks on the successful meetings held by this Section, which he attributed to presentation of interesting clinical cases with condensed histories.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

THE MORPHOLOGY, CULTIVATION, AND TOXIC PRODUCTS OF TUBERCLE BACILLI—EXPERIMENTS ON ANIMALS—DEBATE ON ANGINA PECTORIS AT THE MEDICAL SOCIETY.

London, February 14, 1891.

At the last meeting of the Pathological Society Professor Crookshank read an interesting paper in which he gave an account of some researches he had made on the morphology, cultivation, and toxic products of the bacilli of tuberculosis. Stimulated, he said, by Koch's announcement at the Berlin Congress, he had cultivated the bacillus in liquid media, and later prepared cultures in milk, from which the bacilli were separated by filtration through porcelain. The filtrate was perfectly transparent, alkaline in reaction, and yellowish-brown in color. It was evaporated over sulphuric acid in a vacuum at a low temperature; this process occupied five weeks. The filtrate was then reduced to a brownish, viscous residue consisting chiefly of the glycerine in the original culture fluid. This extract proved to be extremely toxic. Two minims of the diluted extract produced in a guinea-pig a rapid fall of temperature, erect coat, periodic irregularity of the heart's action, irregular muscular spasms, loss of control over the extremities, and finally, death. Professor Crookshank said he concluded that the tubercle bacillus produced a complex proteid poison in which, as in anthrax, the alkaloid of tubercle or tuberculine was in a nascent condition. According to the stage of cultivation there would be a complex proteid substance, or this substance with free ptomaine, or ptomaine alone. Another line of inquiry was to obtain an extract from the tuberculous glands of cows suffering from perlsucht. The filtrate gave similar reactions to extracts of artificial cultivations of the bacillus.

Dr. Abraham and Professor Crookshank then made a joint communication on the effect of Koch's treatment on tuberculous guinea pigs. Similar phenomena were produced to those observed in the human tubercular subject. A cow suspected of being tubercular was also injected on two occasions with doses of 2 and 3 ctgr. The temperature was taken every hour, and was found to remain normal. Increased cough, however, was observed for some hours afterward.

Dr. Abraham stated that in consequence of the alarmist reports as to the dissemination of bacilli in patients under the Koch treatment he had lately examined the blood of two guinea-pigs before and during reaction. He had also examined the blood of ten human patients now undergoing the treatment—in some cases before, and also during and after the reaction. In no single instance had he been able to detect any bacilli, and he therefore thought that if any such metastasis took place as that indicated by Dr. Liebmann's observations it was certainly not of common occurrence.

Dr. Sidney Martin said the selection of proper cultivating media was a matter of much importance. Substances like glycerine, glycerine agar-agar, and glycerine broth were not met with in the body, and one was apt to go wrong if these were used as media. Glycerine, in fact, was not necessary at all, and an exuberant cultivation could be obtained if alkali-albumen were used with an amount of salts added in proportion to those of serum. It was not necessary to use any other products than those found in the body, and alkali-albumen was the nearest approach to a natural medium that could be sterilized and handled with convenience. The bacilli seemed to produce their poisonous products almost entirely from the proteids, the carbohydrates and hydrocarbons being apparently unacted on. Were we on the road to forming any generalization as to the production of these bodies from the proteids? He thought we were. Ordinary digestion produced albumoses, and, if carried a stage further by artificial digestion, pepto-toxin, a basic body of definite chemical formula, would be formed. So the anthrax bacillus formed not only albumoses but a specific alkaloid which could be isolated and which produced the symptoms of anthrax. Dr. Martin thought it would be found that all virulent organisms would similarly produce not only albumoses but an alkaloidal poison which was lethal if injected in large doses. He was not convinced that the chemical reactions obtained by Professor Crookshank proved that an alkaloid was present. All the albumoses were of interest. Anthrax albumose produced fever, but so also did the peptic albumose formed in ordinary digestion. The fever produced by the injection of Koch's fluid was like that produced by the injection of a large dose of peptic albumose into animals, and this latter might be accompanied by coma in the animal, just as coma had followed some of Koch's injections into human beings.

Dr. W. J. Collins, after referring to the classical experience of Buchner with bacillus subtilis and bacillus anthracis, said he thought the position with regard to bacteria would become considerably modified, and that it might be that their action was comparable to that of the unorganized ferments of the body.

An important debate on angina pectoris was initiated at the Medical Society on Monday evening last. Dr. Douglas Powell was the first speaker, and urged that the malady was not so simple a one as had been supposed. The characteristic symptoms ranged between the wide limits of remediable functional disorder on the one hand and fatal organic lesion of the cardio-vascular system on the other. He agreed with Dr. Broadbent that some cases of fatal cramp while bathing were probably due to sudden oppression of the heart from contraction of systemic arterioles—in fact, to vasomotor angina of an intense kind, associated, perhaps, with a fatigued heart. Though physiologists maintained that when the systemic arterioles were contracted by cold the visceral were dilated, and *vice versa*, yet it was highly probable that under certain conditions of chill and emotion the whole arterial system might undergo contraction. He quoted cases which seemed to show that the right side of the heart had borne the brunt of the anginal attack. The cardiac distress and rigid arteries of uræmia might, he said, almost be described as chronic persistent angina, though it was with the so-called cases of cardiac asthma in uræmia that the analogy with vasomotor angina was most obvious. Passing on to discuss angina pectoris gravior, in which the vasomotor disturbance was associated with degenerative cardiac disease, he criticised the view that the disease was necessarily caused by, or associated with, disease of the coronary arteries. The prognosis in the first group was comparatively favorable, the probability being that death would occur from some other cause, such as cerebral hæmorrhage, while in the last group an almost certainly fatal termination might be expected early. Both for prognosis and treatment it was important to make out the precise condition of the heart in respect of size, position, and power. Nitrite of amyl and nitroglycerine were of great value in treatment, but especially in the

graver cardiac cases. In the first group they required to be associated with nervine tonics and sedatives, while in the second group carminatives and stimulants were of special value. He compared the pain in cases of sudden death from angina to that associated with embolic gangrene of the limbs. He described a syncopal form of angina which was rarely met with except in persons over sixty-five, and then usually in association with gout; he suggested that undue acidity of the blood might be concerned in its causation. In conclusion, Dr. Powell said he regarded angina as a disturbed innervation of the heart and vessels associated with more or less intense cardiac pain and distress, and a general prostration of the forces, always producing anxiety, and often amounting to a sense of impending death. He grouped the varieties as angina pectoris vasomotoria, angina pectoris gravior, primary cardiac angina, and syncopal angina. Of these, the first two bore a remarkable resemblance to the respiratory analogue, asthma.

Dr. Ord insisted on the remarkable parallel between the symptoms of asthma and those of angina pectoris. He pointed out that the term asthma formerly comprehended a great many varieties of difficulty of breathing, and statisticians had shown that in times past asthma was a very fatal disease, according to the returns, any reduction in this respect being probably due to better diagnosis. With regard to angina, however, the range was wider than formerly, especially if Dr. Powell's conclusions were adopted. The old limited definition would have to be extended to a large number of cases in which one or two only of the constituent typical symptoms of the disease, as first described, would be present. Such cases might, perhaps, be described as anginous, if not anginal. These anginous attacks usually came on in the daytime, and the prognosis was notably aggravated when they supervened at night. He compared the two classes of cases, one in which the patient had angina on exertion as the consequence of sudden arterial tension caused thereby, and the other in which the attack occurred independently of muscular exertion, and in these he thought the mechanism was probably nervous, either emotionally or by reflex. He had seen illustrations of both classes. Dyspepsia was an important factor in bringing about the attacks, and he observed that if he were restricted to one remedy in the treatment of angina, he would prefer sulphate of magnesia to nitroglycerine, in order to secure a regular action of the bowels. Dr. Ord referred to the association of angina with glycosuria and gout respectively.

Dr. Broadbent said he had been unable to make up his mind as to the condition of the heart during the paroxysms. The pulse varied in different cases and was sometimes unaffected. The central fact was that the heart was overwrought either by peripheral resistance or on account of intrinsic failure. It was especially in those cases due to weakness of the heart that the great danger lay. Vasomotor resistance alone would not be sufficient to determine an attack. The proportion of cases of high arterial tension without angina pectoris was very much greater than the proportion of fatal cases of angina in which there was no disease of the coronary arteries. He presumed that disease of the coronary arteries acted by causing degeneration of the cardiac muscular fibres. With reference to the neurotic theory he pointed out that the vast majority of cases occurred in the non-neurotic sex. He ascribed angina in gouty people to its association with high arterial tension. He had also noted the existence of a myocarditis in patients suffering from glycosuria, associated with high arterial tension, and this was usually followed by marked anginal paroxysms. Angina was seldom associated with mitral lesions, and anginal symptoms usually subsided on the supervention of a mitral lesion in a person subject to anginal attacks. His own experience was that the gravest cases of angina were those in which the least explanation could be found to account for the symptoms.

The debate is to be resumed on February 23d.

SHALL M.D. BE A SUFFICIENT TITLE?

To the Editor of the Medical Record.

Sir: One of the inalienable rights of a citizen of this country is to "resolve," and if the citizen is a member of a medical society, nothing can prevent him from introducing resolutions into the society.

A real active resolution man does not lie awake nights over the defeat of any single resolution, but no sooner does he see one resolution shelved than another begins to take shape in his evolving mind.

In the Toledo Medical Association there is a pronounced dislike to resolutions; so much so that on the death of a member, scarcely more than one brief, "Whereas," and a feeble "Resolve," are ever permitted. Not so much, or at all, because the departed one had no friends, but because of the disfavor in which resolutions are held.

The real rub in the disposal of resolutions comes in when one member hates the resolution for one reason, and another member for something else.

One man may say that the resolution has a string tied to it, and that if the string is pulled, the resolution will do this, while another member does not believe that the thing is loaded at all, and were it not for the solicitations of the other member to the contrary, he would proceed to pound the life out of it.

In such a case it is difficult to decide whether it is the resolution or the members that are between the "—— and the deep blue sea."

Here is the last one that the Toledo Medical Association has had to deal with:

"*Whereas*, It has become customary for physicians to place after their names not only their professional titles, but also the names of medical societies to which they have belonged, and the names of those societies of which they are members; the official positions in those societies which they have occupied, or which they at present hold; the political office which they fill, or to which they were one time elected; the business positions which they have secured; the names of hospitals which they visit; the names of the medical colleges in which they are professors, lecturers, or assistants; and many other such titles, and,

"*Whereas*, Such an array of titles in no degree adds to the value of the paper at the heading of which they are placed, and,

"*Whereas*, Such practice savors of unprofessional advertising, and in that degree is undignified,

"*Resolved*, That we regard the mention of these titles, excep tthat of M.D., as unnecessary, and liable to suggest invidious distinctions, and therefore we advise their discontinuance for the future."

A little ripple in the deep running stream of thought that is "going on forever," in this Association is noticeable on account of this preamble and resolution.

You will notice that in the resolution all of the sharp corners have been rounded off, and that otherwise dangerous wires have been insulated, so that it is about as harmless as a resolution can well be, which fact and the season of the year tend to reduce friction and to keep the temperature down, so that you do not hear anybody calling someone else "another," nor anything of the kind.

It is not claimed by those who feel like giving them a kick, that the preamble does not amble along pretty close to the lines of truth and fact, nor that the resolution does not contain at least a small dose of needed medicine; but each one afflicted with the trouble says that he got it from some great man, and that others have it a good deal worse than he has, and that there is no use in trying to cure the disease in the Toledo Medical Association, when the American Medical Association is sending out the contagium in its most virulent form.

It is said that the mother association being affected in the same way, actually forces the thing upon us, and that such resolutions must originate in the parent association; rather favoring, you see, quarantine against the American

Medical Association. He would give it up in a minute if everybody else would do the same thing, but here is a way of "getting before the public" for all that a man is worth, and competition is brisk.

The resolution is in the hands of the Executive Committee and may never be heard of again, it may be defeated and it may be adopted, but we want to say to all post-graduate medical colleges and polyclinics, that if it survives, and the theme of the resolution becomes popular (?), and so starts "thundering down the ages," that no priority claim set up by them that they "first thought of it" will count as against this record. If you care to turn to the pages of the *Journal of the American Medical Association* you will find that one physician in every three whose articles appear in that journal contents himself by placing simply M.D. after his name. The other two make use of every conceivable title between "Professor," and "etc."

Imagine yourself being introduced to one of these great men, and as you stand grasping his hand have the one introducing you repeat his list of titles; why sir, you would feel before he had gotten half through as if you had had La Grippe for a week.

It is not uncommon to find in journals such puzzling things as a professor of orthopedic surgery reporting a case of pneumonia. Some day when you are feeling real well in mind and body just try to think of orthopedic surgery and pneumonia at the same time, and note how soon a feeling of "goneness" comes over you.

Now it is a fact that we haven't it as bad as that here. To be sure we have clinics, and retreats, and such things that you never heard of, and we admit that we work them for all there is in them, but — and we come around out of the same hole that we went in at, which is, that "others do it."

Long live professional (?) advertising!

Toledo, O. A. M.

THE TREATMENT OF INOPERABLE MALIGNANT GROWTHS BY THE ANILINE DYES.

To the Editor of the Medical Record.

Sir: In your issue of February 21st you published a note: "A New Cure for Cancer. Professor Mosetig, of Vienna, announces that in pyoktanin or methyl-violet he has found a remedy for cancer. He does not assert that any cases are quite cured yet; but the results have been so satisfactory as to lead him to think a cure will be found in the aniline dyes." I think the announcement may perhaps be of interest to many of your readers that since nearly eight weeks I have tried fuchsin one-half per cent. (alcoholic solution and ointment), in a number of patients suffering from inoperable ulcerated epithelioma of the face and scalp (rodent ulcer), at the Country Branch of the New York Skin and Cancer Hospital at Fordham Heights. The experiments were started in these cases by the suggestion of Dr. Amos C. Lewis, the Medical Superintendent of the Country Branch, on January 6th.

The results are partially marvellous, and so encouraging that I venture to send to you already this preliminary note for publication. Perhaps my observation will induce others to try this "dyeing treatment" in hopeless cases.

One of my patients, a man seventy-one years of age, in whom an aggressive growth has in reality been checked in its further spreading by a continuous application of fuchsine, was presented by me to the New York Surgical Society on February 25th, and to the Scientific Society of German Physicians on February 27th.

Since February 20th I am using pyoktanin (Stilling-Merck) in parenchymatous injections (1 to 300; 1 to 1½ drachm every second or third day) in inoperable cancer cases, according to v. Mosetig, giving besides, the same drug or methylin blue internally.

Yours very truly,

New York. Willy Meyer, M.D.

MORE ABOUT THE DISPENSARIES.

To the Editor of the Medical Record.

Sir: In your columns of February 21st the author of the communication "From Another Point of View" evidently implies that the dispensary offers no disadvantage in the way of success to the young practitioner, for he advises those who feel themselves unable to cope with what he terms "the modern essential of city life" to seek other localities. He seems to bring forward as an argument the statement that since only seven millions of people in the United States seek advice and treatment at free dispensaries, there is ample opportunity for every physician to succeed among the other fifty-five millions. I will allow that only one-eighth of our people are recipients of free treatment every year; but is this proportion not small in those cities where free dispensaries do exist? Why, in the city of Boston alone, which contains fully 450,000 people, last year 130,000, more than one-fourth of the entire population, enjoyed the privileges of our hospitals! and it would not be far from the truth to say that every year at least one-third of the invalid population of our city seek and obtain treatment in our hospitals.

However, the question is not whether our young practitioners shall remain in the city to cope with the outpatient departments or go to some country town, but, shall not something be done to limit the privileges of our institutions to the needy and deserving poor? The fact remains, nevertheless, that the objects for which our hospitals were founded are in many instances transgressed, when patients are treated who can well afford to pay the ordinary medical fee. In almost every city the regular is surrounded on all sides by quacks of every description, not to speak of patent-medicine mongers, and no matter what field "the intelligent, honest, and competent physician" may select, he has a right to expect and receive mercy and consideration from his brothers, whose duty it is to bestow them.

Very truly yours,

J. M. Thompson, M.D.

Boston, Mass., February 21, 1891.

Army News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from February 22, 1891, to February 28, 1891.

Chapin, Alonzo R., Captain and Assistant Surgeon. By direction of the Secretary of War, the leave of absence granted in Special Orders No. 17, January 31, 1891, Department of Dakota, is extended one month. S. O. 41, A. G. O., Washington, D. C., February 20, 1891.

Fryer, Blencome E., Lieutenant-Colonel and Assistant Medical Purveyor. Having been found incapacitated by army retiring boards on account of disability incident to the service, is, by direction of the President, retired from active service this date, under the provisions of Section 1251, Revised Statutes. S. O. 42, par. 15, A. G. O., Washington, D. C., February 24, 1891.

Gardiner, John de B. W., Captain and Assistant Surgeon. Having been found, by army retiring boards, incapacitated for active service on account of disability incident to the service, is, by direction of the President, retired from active service this date, under the provisions of Section 1251, Revised Statutes. S. O. 43, par. 12, A. G. O., Washington, D. C., February 25, 1891.

Shufeldt, Robert W., Captain and Assistant Surgeon. Having been found, by army retiring boards, incapacitated for active service on account of disability incident to the service, is, by direction of the President, retired from active service this date, under the provisions

of Section 1251, revised Statutes. S. O. 43, par. 12, A. G. O., Washington, D. C., February 25, 1891.

De Haune, J. Victor. Captain and Assistant Surgeon. Having been found, by army retiring boards, incapacitated for active service on account of disability incident to the service, is, by direction of the President, retired from active service this date, under the provisions of Section 1251, Revised Statutes. S. O. 44, par. 18, A. G. O., Washington, D. C., February 26, 1891.

Steinmetz, William R., Captain and Assistant Surgeon. Having been found, by army retiring boards, incapacitated for active service on account of disability incident to the service, is, by direction of the President, retired from active service this date, under the provisions of Section 1251, Revised Statutes. S. O. 44, par. 18, A. G. O., Washington, D. C., February 26, 1891.

Owen, William O., Jr., Captain and Assistant Surgeon. By direction of the Secretary of War, is relieved from further duty in the Department of the Missouri, and will report in person to the commanding officer at Jefferson Barracks, Mo., for duty at that station, and by letter to the Superintendent of the Recruiting Service. S. O. 44, par. 2, A. G. O., Washington, D. C., February 26, 1891.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending February 28, 1891.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	6	2
Scarlet fever	147	33
Cerebro-spinal meningitis	2	0
Measles	384	10
Diphtheria	119	40
Small-pox	0	0
Varicella	9	0
Pertussis	4	7
Croup	0	0
Mumps	0	0
Rötheln	0	0

A Sudden Outbreak of Cholera.—Among the outbreaks of cholera which occurred in Burmah last year there was a remarkably sudden visitation at the Moulmein Jail. One evening the prisoners were conducted to their dormitories in the usual manner, without the slightest indication that there was anything wrong. At midnight the seizures commenced, and by six o'clock the following morning nine men had been attacked, and every one of them died. When the day came to a close 31 out of a total of 674 convicts were struck down, and the following day the number of seizures was increased by seventeen, giving for the two days 48 attacks, of which 38 ended fatally. On the third day there were fifteen more seizures, so that in three days ten per cent. of the jail population suffered. Cholera camps were formed outside "the zone of jail influences," but it was some time before the scourge could be shaken off, and by order of the Commissioner 136 convicts were released.—*Indian Medical Gazette.*

Is the Urine of Pregnant Women Poisonous?—Dr. Blanc has injected urine taken from healthy women during the last months of pregnancy into the veins of rabbits, in order to determine the truth of the theory propounded by Rivière, namely, that puerperal eclampsia depended on an autointoxication due to the formation of poisonous matters in greater quantities during pregnancy than in the non-gravid state. The result of thirteen experiments brought the author to adopt the conclusion that a pregnant woman under ordinary conditions of health does not form and does not eliminate more poisonous matters than the non-gravid female. Dr. Blanc has also made experiments to determine the toxic power of the urine in women recently delivered, that is, during the first five days of the puerperium. In this latter condition he found the toxic power of the urine somewhat increased beyond the normal standard but not to any great extent. —*Annales ae Gynécologie.*

Dislocation, and Fractures of the Neck of the Femur—Dr. Keen gives the following tables in the *College and Clinical Record:*

Fracture of Neck.	*Dislocation.*
1. Old persons, as a rule.	1. Adult middle life.
2. In women more frequently.	2. Either sex (men more frequently).
3. Slight force.	3. Severe force.
4. Eversion of toes.	4. Inversion of toes (usually.)
5. Shortening in both.	5. Shortening in both.
6. If you restore to position displacement recurs.	6. If you restore to position displacement does not recur.
7. Usually crepitus.	7. No crepitus.
8. Preternatural mobility.	8. Preternatural immobility.
9. Slight prominence of great trochanter.	9. Great prominence of great trochanter.

He also gave this table as a differential diagnosis between intra- and extra-capsular fracture of the neck of the femur.

Intra-capsular.	*Extra-capsular*
1. Slight injury.	1. Severe injury.
2. Rarely severe contusion.	2. Usually severe contusion.
3. Shortening increases.	3. Remains the same.
4. Crepitus feeble and sometimes absent.	4. Crepitus distinct.
5. Leg nearly (but not entirely) helpless.	5. Entirely so.
6. Shortened radius of rotation.	6. Still more so.
7. Pain tolerably severe.	7. Extremely severe.
8. Usually occurs in persons over fifty years of age.	8. Usually occurring in persons under 50 years of age.
9. More frequently in women.	9. More frequently in man.

Differential Diagnosis of Tumors.—Professor Keen gives this table as of use in making the differential diagnosis of the following varieties of tumors:

Encephaloid.	*Scirrhus.*
1. Soft, elastic, not uniform.	1. Hard and inelastic.
2. Rapid growth, large size, adhesions early.	2. Slow growth, small size, late adhesions.
3. Pain slight and wandering; after ulceration severe and fixed.	3. Pain early, sharp, fixed, and lancinating.
4. Veins enlarged.	4. Veins slightly enlarged.
5. Ulcerations deep, foul, undermined and bleeding.	5. Ulceration deep, edges hard and abrupt.
6. Glands involved early.	6. Glands involved late.
7. Occurs at any age, usually before forty-fifth year.	7. Usually occurs after fortieth year.
8. Occurs most frequently in the breast, testicle, and uterus.	8. Breast, uterus, stomach.
9. Death occurs in from nine to twelve months.	9. Death in from nine to eighteen to thirty-six months.
10. If in breast there is no retraction of nipple.	10. There is retraction of nipple.
11. Family history is bad.	11. Family history is bad.

Sarcoma.	*Adenoma.*
1. May be soft and fluctuating, or hard.	1. Soft and elastic.
2. Growth irregular, adhesions early.	2. Slow growth, no adhesions.
3. Very little pain until ulceration takes place.	3. Pain very slight and neuralgic; menstrual if tumor affects the breast
4. Veins slightly enlarged.	4. Veins normal.
5. Ulceration sooner or later, quite deep.	5. No ulceration.
6. Rarely, if at all, involved.	6. Glands never involved.
7. Occurs in adult middle life, twentieth to fortieth year.	7. Occurs from twentieth to thirtieth year, usually.
8. Connective tissue anywhere.	8. In breast or other glands.
9. Death occurs early or late; simply a matter of time.	9. Never kills.
10. No retraction of the nipple.	10. No retraction of nipple.
11. Family history good.	11. Family history good.

Longevity.—In connection with the pseudo-centenarianism of the Elgin "Methuselah," whose death was recently recorded, the following story will be read with interest: It is well known that people seldom die in Ochiltree. When anyone there gets tired of life, he generally finds it necessary to remove to another parish. Many of the inhabitants, however, do not seem ever to tire of life, and so remain on their native soil till their ages are past all reckoning. Colonel Andrew M'Dowall, when he returned from India, came one day upon an old man sitting weeping on a big stone by the roadside. When he came up, the old man rose and took off his bonnet and wiped his eyes, and said, "Ye're welcome hame again, laird." "Thank you," said the Colonel, adding, after a pause, "I should scarcely know your face; aren't you Nathan McCulloch?" "Ye're richt, 'deed!" said Nathan. "It's just me, laird." "You must be a good age now, Nathan," said the Colonel. "I'm no verra aul' yet, laird," was the reply; "I'm just turn't a hunner." "A hundred!" said the Colonel, musing. "Well, you must be all that. But the idea of a man of a hundred sitting blubbering in that way! What could you get to cry about?" "It was my faither licket me, sir," said Nathan weeping again; "an' he put me oot, so he did!" "Your father!" said the Colonel, astonished. "Is your father alive yet?" "Leevin'? Ay," replied Nathan, "I ken that the day tae my sorrow." "Where is he?" said the Colonel. "What an age he must be! I should like to see him." "Oh, he's up in the barn there," said Nathan, "an' no in a horrid gude humor the noo aither!" They went up to the farm together, and found the father busy threshing the barley with the big flail, and going on at a fearful rate. Seeing Nathan and the laird coming in, he stopped and saluted the Colonel, who, after inquiring how he was, asked him what he had struck Nathan for. "The young rascal," said the father, "there's nae doin' wi' him; he's never oot o' mischief! I had tae lick him this mornin' for cloddin' stanes at his grandfather!" —*Edinburgh Medical Journal.*

Psorosperms in Cancer.—In a paper read before the Havana Society of Clinical Studies by Dr. Albarran on the Micro-organism of Cancer, the author detailed his reasons for believing the bacterial cause of cancer to be a body belonging to the coccidiæ, or, as they are sometimes called, psorosperms, one of the five divisions of the sporozoaria. Some years ago, while examining a cancer of the jaw, he came upon some rounded bodies which were considered by MM. Malassez and Balbiani to be psorosperms analogous to those found in the liver of rabbits. Subsequently they were discovered by M. Darier in a skin disease which is now called "psorospermosis follicularis vegetans," and similar bodies were found in the centre of the nests in epithelioma, especially in those which are in an early stage of development. Both Pfeiffer and Babes have described bodies of similar nature which they have seen in cancers, and subsequently Darier, Wickham, and others demonstrated their existence in Paget's disease and in various forms of cancer. Dr. Albarran himself described at the Berlin Congress a disease of the bladder, consisting of a proliferation of the epithelium, of irregular distribution, giving the inner surface of the organ a papillary instead of a smooth appearance, psorosperms being found in the epithelial urinary casts in their two principal forms—that is to say, rounded bodies and spore-bearing cysts; this peculiar affection he styled "vesicular psorospermosis," and compared it with vesical epithelioma containing psorosperms. Although the cultivation of these bodies has only been very imperfectly carried out, and no inoculation experiments have been made, Dr. Albarran considers that when we follow the change from Paget's disease to true epithelioma, and compare vesical psorospermosis in the human subject and the disease molluscum contagiosum of birds, which is admittedly of psorospermic origin, with epithelioma containing psorosperms, there is a good deal of reason for regarding these organisms as the probable cause of cancer. He goes on to give some directions for finding them, which is not always an easy task, as they do not readily take a distinct stain. If very small portions be hardened in osmic acid and alcohol, and the sections stained with carmine combined with alum or with Ranvier's picro-carmine, the psorosperms will be of a greenish yellow, which is distinguishable from the rose color of the surrounding tissue. A search should be made with a power of 100 to 150 diameters in the epithelial masses for rounded cells, badly stained, larger and more refracting than the rest. These should then be examined with a power of 400 or 500 for the detailed structure—its intra-cellular encysted state, its rounded or elongated form, and the granulations of its protoplasm. Sometimes the membrane of the cyst can be seen to have a double contour, and between it and the retracted protoplasm a clear space can be detected. Sometimes also larger cysts may be seen containing a considerable number of spores in the form of elongated corpuscles. It is needless to say that the author of the paper referred to entirely disputes the claim of Scheuerlen's bacillus to be the cause of cancer. —*The Lancet.*

Dr. Holmes on Specialism.—Oliver Wendell Holmes puts in the mouth of a young doctor the following words: "I am very glad," he said, "that we have a number of practitioners among us who confine themselves to the care of single organs and their functions. I want to be able to consult an oculist who has done nothing but attend to eyes long enough to know all that is known about their diseases and their treatment—skilful enough to be trusted with the manipulation of that delicate and most precious organ. I want an aurist who knows all about the ear, and what can be done for its disorders. The maladies of the larynx are very ticklish things to handle, and nobody should be trusted to go behind the epiglottis who has not the *tactus eruditus*. And so of other particular classes of complaints. A great city must have a limited number of experts, each a final authority to be appealed to in cases where the family physician finds himself in doubt. There are operations which no surgeon should be willing to undertake unless he has paid a particular, if not an exclusive attention to the cases demanding such operations. All this I willingly grant; but it must not be supposed that we can return to the methods of the old Egyptians, who, if my memory serves me correctly, had a special physician for every part of the body; in short, falling into certain errors, and incurring certain liabilities. The specialist is much like other people engaged in a lucrative business. He is apt to magnify his calling, and to make much of any symptom which will bring a patient within range of his battery of remedies. I found a case in one of our medical journals a couple of years ago, which illustrates what I mean. Dr. ——, of Philadelphia, had a female patient with a crooked nose—deviated septum, if our young scholars like that better. She was suffering from what the doctors call reflex headache. She had been to an oculist, who found that the trouble was her eyes. She went from him to a gynecologist, who considered her headache was owing to causes for which his specialty had remedies. How many more specialists would have appropriated her if she had gone the rounds of them all I dare not guess; but you remember the siege in which each artisan proposed means of defence, which he himself was ready to furnish. Then a shoemaker said, 'Hang your walls with new boots!' Human nature is the same with the medical specialist as it was with ancient cordwainers, and it is, too, possible that a hungry practitioner may be warped by his interest in fastening on a patient, who, as he persuades himself, comes under his medical jurisdiction. The specialist has but one fang with which to seize and hold his prey; but that fang is a fearfully long and sharp canine. Being confined to a narrow field of observation and practice, he is apt to give much of his time

to curious study, which may be *magnifique*, but it is not exactly *la guerre* against the patient's malady. He divides and subdivides, and gets many varieties of diseases, in most respects similar. These he quips with new names, and thus we have those terrific nomenclatures which are enough to frighten the medical student, to say nothing of the sufferers staggering under this long catalogue of local infirmities. The 'old fogie' doctor who knows the family tendencies of his patient, who understands his constitution, will often treat him better than the famous specialist who sees him for the first time, and has to guess at many things. The old doctor knows from his previous experience with the same patient and the family to which he belongs. It is a great luxury to practise as a specialist in almost any class of diseases. The special practitioner has his own hours, hardly needs a night-bell, can have his residence out of the town in which he exercises his calling, in short lives like a gentleman, while the hard-working general practitioner submits to a servitude more exacting than that of the man who is employed in his stable or kitchen. That is the kind of life I have made my mind up to."

Pure Water.—In the "Proceedings of the Florida Medical Association" Dr. Porter says that he once heard a composition on water in which the writer said: "Water is a substance used for washing and to sail ships in, and some people drink it." It is only when people will drink water that is impure that an objection can be raised as to the use of too much of it, and water as a temperance beverage, from a medical stand-point, is then brought into disrepute. Artesian well water and rain-water, properly filtered, are the only safe drinking-waters; and the drinking of ordinary well water, which is so general in this State, is a practice that cannot be too strongly condemned. The wells, for the most part, are shallow excavations, or are driven into the ground only a short distance and collect by seepage and too frequently the drainage from the dwellings and barnyards. The fact that water from these wells is free from color and odor argues nothing in favor of its healthfulness or harmlessness for human consumption, as very often such water upon analysis shows a large percentage of organic impurities and albuminoid ammonia in such quantity as to imperil the health of those using it. It is a difficult matter to persuade the people that in drinking well-water they are, in a large majority of instances, poisoning their systems and inviting a long and tedious illness from typhoid fever which may result in years of shattered health and perhaps death. You will oftentimes be met with the argument that this or that particular well has been used by the family for a long period of years with no apparent detriment to them, and no better water could be found in the neighborhood. To the query as to the prevalence of fever or intestinal disorders, the answer will be: "Oh! yes; we have fevers such as are usual about here, but we always have had them at certain seasons of the year." Now, it is the experience of many writers on this subject, that it is at certain seasons of the year—either at the dry season when the water is very low, or during the wet weather when the wells are filled to the curb—that the "continued fevers," as they are now called, generally prevail. If the people in the small towns and rural districts of the State will drink well-water, they should be advised to boil it thoroughly and aërate and filter it before using.

A Proposed Colony for Epileptics.—The following is the text of a bill introduced before the Legislature of the State of New York on January 29th: An Act providing for the appointment of commissioners to establish a colony for epileptics in the State of New York. The people of the State of New York, represented in Senate and Assembly, do enact as follows:

Section 1. Three persons, two of whom are residents of New York County, possessing expert knowledge of the needs of epileptics and the epileptic insane, and one of whom is a resident of Westchester County, shall be appointed by the Governor within ten days after the passage of this act, and shall constitute a commission to determine upon the manner of providing for the education, employment, care, and treatment of all the epileptics and epileptic insane of this State, including those now congregated in the almshouses and insane asylums upon public charge, and also those not under State or county care. Said commission is authorized to select a site in Westchester County, as near as convenient to New York City, to consist of not more than three hundred acres of farming and wood land; to adopt plans which shall furnish provision on the cottage or pavilion system ultimately for from one thousand to two thousand epileptics, such plans to include methods of heating, lighting, sewerage, water-supply, and prevention of danger from fire, and, in addition to accommodations for dwelling purposes, to include school-rooms, workshops, a hospital, a pathological laboratory, and outbuildings for agricultural, floricultural, horticultural, and dairy purposes.

Said commission shall provide the land needed by purchase or otherwise.

Sec. 2. The members of said commission, before entering upon the duties of their office, shall take and subscribe an oath or affirmation, before some competent authority, faithfully to discharge all the duties required of them by this act. They shall each be entitled to receive the necessary expenses incurred while discharging the duties assigned them.

Sec. 3. When said commission shall have selected a site and complied in all respects with the provisions of section one of this act, a report thereof shall be made in writing by said commission to the Governor, who shall thereupon appoint seven managers, who shall approve of the plans and let the contract, and have charge of the erection of the buildings, as provided by law. Said managers shall be appointed and confirmed according to the laws governing the appointment of managers of other benevolent institutions of this State; provided, that the said commissioners and managers shall not enter into any contract for the erection of said buildings until the money has been appropriated by the Legislature to pay for the same.

Sec. 4. That there be and is hereby appropriated out of any money in the treasury to the credit of the general revenue fund, not otherwise appropriated, the sum of ten thousand dollars for the expense of said commission, and for the purpose of complying with the provisions of section one of this act.

The accounts of expenditure, including the expenses of the commission, shall be audited and allowed by the Comptroller of the State.

Sec. 5. This act shall take effect immediately.

BOOKS RECEIVED.

Transactions of the Mississippi State Medical Association. Twenty-second Annual Session. 8vo, 188 pages. Published by the Association.

The Treatment of Consumption. A Physician's Study of Dr. Koch's System; Observation of Nearly Two Hundred and Fifty Cases under Treatment at Berlin, etc. By A. E. Bridger, M.D. 12mo, 92 pages, paper. Price, 1*s*. John Hogg. London.

Études sur la Rage et la Methode Pasteur. Par le Dr. Eutaud. Second edition, 12mo, 440 pages. Paris.

An Illustrated Encyclopædic Medical Dictionary. Edited by Frank P. Foster, M.D., Vol. II. Royal 8vo, 792 pages; sheep. D. Appleton & Co., New York.

Heredity, Health, and Personal Beauty. By John V. Shoemaker, M.D. 8vo, 422 pages. Price, cloth, $2.50; morocco, $3.50. F. A. Davis, Philadelphia, Pa.

Principles of Surgery. By N. Senn, M.D. 8vo, illustrated, 611 pages. Price, cloth, $4.50; sheep, $5.50. F. A. Davis, Philadelphia, Pa.

Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 39, No. 11.
Whole No. 1062.

NEW YORK, MARCH 14, 1891.

$5.00 Per Annum.
Single Copies, 10c.

Original Articles.

THE OPERATIVE SURGICAL TREATMENT FOR ANEURISM OF THE FIRST TWO PORTIONS OF THE SUBCLAVIAN.[1]

By JOSEPH D. BRYANT, M.D.,

NEW YORK.

YOUR Chairman addressed me, not long since, a somewhat urgent request, tinged with a coloring of entreaty, asking if I would contribute to this meeting of the Section a paper on the subject of which, I fancy, he hoped a profitable discussion might make amends for the various brevities of the exciting cause of the debate.

The subject of discussion selected, "The Operative Surgical Treatment for Aneurism of the First Two Portions of the Subclavian," is not at all new in the idea, though perhaps differently expressed than before. I desire to say at this time that you will not be plagued by the announcement of the employment of any strange expedient of treatment of my own, nor, in fact, of a startling or unusual result of treatment. The suggestive stimulus of a recent case of mine that was thought to bear on the title of this paper, is offered in part as the reason for it, and the history of the case will be employed as a text from which it is hoped useful conclusions may be drawn.

Mary D——, possessed of average intelligence, aged fifty-five, was admitted to Bellevue Hospital August 16, 1890. On admission an examination showed the existence of an aneurismal tumor, extending about one inch and a half above the right clavicle, behind and nearer to the outer side of the sterno-cleido-mastoid muscle. From this situation it extended obliquely downward to the episternal notch, thence behind the sternum, although not pressing against it. Percussion at and around the immediate neighborhood of the right sterno clavicular articulation disclosed a marked degree of dulness. The personal and family histories of the patient contained nothing suggestive, except perhaps a prolonged attack of acute articular rheumatism, from which she had recovered a year or so before admission. No specific history. She complained of constant pain, fulness, and throbbing, which had existed with varying intensity for several weeks before admission, at the seat of the tumor. The fingers could not be pressed between the tumor and the clavicle, or the sternum, on account of the size of the growth. Huskiness of the voice was marked, and had continued with varying degrees of severity, without the presence of the usual assignable causes of it, for some time prior to admission. The tumor was first noticed ten weeks before admission, at which time it was about one-half as large as on entrance to the hospital. Occasional attacks of nausea, dizziness, and headache, with ringing in the ears, and flashes of light, followed from the time of the discovery of the tumor up to the present date. No evidence of organic disease was discovered. The pulsation of the radial artery of the right was appreciably weaker than that of the left side. A soft bruit, but no thrill, was present. A somewhat indefinite history of previous slight laryngeal spasm was elicited. No difficulty in deglutition or respiration had occurred, due to direct pressure.

The patient was placed in bed and put on a low diet, combined with iodide of potassium in large doses. At the end of the first month the tumor appeared to be smaller, certainly it had not increased in size. At this time it was examined by Dr. E. G. Janeway and Dr. A. A. Smith, with the view of confirming the suspected site. The first portion of the subclavian, with probable involvement of the innominate, was deemed to be a discreet and rational diagnosis in this respect. The treatment was continued, with ever-varying belief as to whether or not the tumor were larger or smaller, harder or softer, than on a previous occasion. The element of doubt in these cases frequently staggers belief; and it seems not improbable that the author of the sentiment, "Who never doubted, never half believed," was a consulting physician in such matters, and coined the sentiment for selfish and politic purposes only.

On November 14th the patient had a sudden and severe attack of dyspnœa, attended with nausea, vomiting, ringing in the ears, flashes of light, and great cyanosis. Just subsequent to this attack she was examined by Dr. Stephen Smith and Dr. Dennis, who concurred in the diagnosis already made. Three other attacks of a similar nature, though less severe, happened during the next month. These attacks were apparently mitigated by the use of chloroform and nitrite of amyl. No appreciable changes in the size or shape of the tumor attended these obstruction manifestations. As the result of the preceding consultations it was decided to tie the common carotid and subclavian arteries, either simultaneously or with an interval, as might seem proper after ligature of the carotid. On December 20th the common carotid was tied, immediately above the omo hyoid, at a clinic given in the Bellevue Hospital amphitheatre. Slight loss of power of the right side of the face, unnatural dilatation of the right pupil, and dizziness were the only important cerebral manifestations of circulatory interference that followed the ligaturing, and all of these disappeared within the first week after the operation. During the first week it was noted: 1, That all evidences of the previous long-continued hoarseness had disappeared; 2, that the patient's sensations of pain, fulness, and throbbing at the seat of the tumor were no longer complained of; 3, that the tumor appeared to be smaller and firmer.

Toward the end of the second week the tumor was again examined by Dr. Stephen Smith, who unhesitatingly expressed the opinion that it was much reduced in size and increased in density. Twenty days after the ligature of the carotid the tumor had disappeared almost entirely from behind the posterior border of the sterno cleido-mastoid, and, without extending higher, had advanced toward the median line of the neck, entering further into the inferior carotid triangle. However, the tumor appeared smaller, and the dulness first noticed at and about the sterno-clavicular articulation was much diminished in area and lessened in intensity.

On January 17th (four weeks after ligature of the carotid) the subclavian artery was ligatured at the third portion. Nothing unusual followed as the immediate result of this operation. This vessel, like the carotid, was tied with an ordinary good-sized catgut ligature. Both wounds healed throughout, by first intention, at once. One week after the last operation the patient expressed herself as comfortable in all respects. On the eleventh day, however, while the tumor was being examined, the patient complained suddenly of a severe pain in the right side of the head, which was followed quickly by nausea, vomiting,

[1] Read before the Surgical Section of the New York Academy of Medicine, February 19, 1891.

and well-marked ptosis of the right eye, together with right myosis. The day following, the pain and vomiting continued, the stomach rejecting all alimentation. The respirations became hurried, attended with small, moist râles in the right lung. On the thirteenth day the patient died. The result of the autopsy in all of the details is well expressed in the following statement of Dr. Hermann Biggs, who made it:

"The heart seemed of about normal size and showed only moderate sclerotic and fatty degeneration in the myocardium. The mitral valves were nearly normal, and the aortic valves, though slightly thickened, were perfectly competent. The aorta was the seat of very extensive chronic deforming endarteritis as shown by numerous patches of atheroma, atheromatous ulceration, sclerosis, calcification, etc. This process was more marked in the thoracic and abdominal aorta than in the arch of the aorta, and extended from the aorta into the smaller vessels to a moderate degree. There was a dilatation of the ascending and transverse portion of the aortic arch along its external convex surface. Some idea of the amount of this dilatation may be gained from the transverse measurement of the vessel. After opening the aorta the transverse measurement of the aortic lumen, just above the valves, was 3½ inches. One inch and a half higher up it was 4½ inches, and at the origin of the innominate artery 4 inches. The innominate itself was also considerably dilated, especially near its origin, where its circumference was one half inch greater than just below the bifurcation. There was a firm thrombus in the right common carotid, situated one and one-fourth inch from its origin. Surrounding the third portion of the right subclavian artery was a heavy catgut ligature, and on either side of this was a firm thrombus. In the right vertebral artery, one-half inch from its termination in the basilar, was a thrombus (which seemed to have formed around an embolus) which completely obstructed the vessel. Beginning in the lower part of the floor of the fourth ventricle, on the right side, was an area of softening that extended upward nearly through the pons. In the right hemisphere of the cerebellum, also, was a large area of softening, which involved nearly the whole of the centre of the hemisphere. The arteries of the circle of Willis and their branches presented the lesions of an advanced endarteritis. Fibrinous deposit had not taken place within the aneurism at any portion of its surface."

There are some facts in connection with these findings that appear to deserve special attention at this time.

1. The actual location of the aneurismal changes, as compared with their supposed site.

The presence of the tumor above the clavicle, and behind the sterno cleido-mastoid, pointed to disease of the subclavian, which, when taken in connection with the hoarseness and laryngeal obstruction symptoms, and the dulness at and about the right sterno-clavicular articulation, seemed at that time to make the localization element of the diagnosis almost certain. The sequel, however, only serves to emphasize the fact already enunciated, that a correct diagnosis of the location of aneurismal tumors at the root of the neck is an impossibility, except in special cases.

2. The absence of stratified or other thrombi within the sac of the aneurism.

The well marked diminution of the size of the tumor and the increase of its density, which followed ligature of the vessels, were thought to have been due to fibrinous deposit. These changes encouraged the belief on the part of all those who examined the growth that a definite curative process, due to fibrinous deposit, was taking place. However, such appears not to have been the case. And in this connection I will mention a most striking fact that was noticed, after ligature of the carotid, by those to whose attention it was called. Immediately after the ligature of this vessel the circulation of the right subclavian was arrested at the third portion by pressure of the thumb, with the view to determine its effect on the size and tension of the aneurism. Certainly this act did not, so far as I could discover, cause the least increase in the size and tension of the growth; in fact it seemed to me as if the size were diminished by the manipulation. Being unwilling to rely on my own sense of touch in this matter, I asked Dr. Banks, the house surgeon, to make the test, and did so without speaking of the impression it had made upon me. After repeated trials Dr. Banks asserted positively that the aneurism was lessened in size by the arrest of the circulation in the subclavian. This did not satisfy me. I then requested Dr. Banks to command the subclavian, while my own fingers were applied to the growth with my back turned to the patient. With these precautions I would have no means of knowing whether the circulation were arrested or not by the doctor's manipulations. I then endeavored to tell, by the impressions conveyed to my fingers by the growth, whether or not the circulation were arrested in the subclavian, basing my belief, of course, on the appreciation of the varying size of the tumor as modified by the pressure manipulations. To my astonishment, and to the amusement of those present, my predictions were amiss, for when I declared the tumor the smaller, the circulation was arrested; when the larger, it was uninterrupted. Some days after this time I asked Dr. Stephen Smith to make the test and express his opinion of the matter. After a careful trial Dr. Smith was unable to note an appreciable change in the size of the aneurism, due to interruption of the subclavian circulation. If the initial observations were true, then surely a lessening in the size of aneurisms may happen when similarly circumstanced, even though no fibrinous deposit ensue. Whether or not these impressions were genuine or delusive can be determined only by a more careful study of subsequent cases.

3. The fatal thrombus of the vertebral artery.

The brain-softening following the plugging of the vertebral was the immediate cause of death, consequently brief attention to this phase of the case is important as bearing on the ligature of this vessel in the course of treatment of aneurisms amenable to it. At one time I had entertained the self-proposition in this case to tie the vertebral at its association with the atlas, after allowing sufficient time to elapse to have gained all that might arise from the collateral relations of its cervical branches with important contiguous vessels. This case demonstrates the result that would have followed had the proposition been deferred six weeks after ligature of the common carotid. The proposal to tie this vessel, after a longer or shorter period following ligature of the innominate and common carotid simultaneously, is made especially significant in old people by the result of this case. However, the dangers attending the Charybdic shoals of supplementary measures in aid of innominate ligature are not less momentous than the inevitable Scylla-like results of the cases demanding it.

4. The gradual forward change in the position of the supra-clavicular portion of the aneurism, which followed soon after ligature of the common carotid, is in no way explained by the post-mortem examination.

In selecting the title of the paper I was actuated also by a desire to have considered at this time the better plan of procedure in aneurismal growths so situated as to admit of either of two procedures, viz., ligature of the innominate artery, or distal ligature of the common carotid and subclavian arteries, either simultaneously or consecutively. The importance of such a decision is obvious, more especially if it shall appear that the latter proposition affords an equal relief from suffering with an equal saving of life, since its performance can be easily accomplished by anyone having an ordinary well-founded surgical attainment. It is fair, too, in this connection, to add to either of these procedures other expedients that may be thought to exercise an equal influence in contributing to the necessities of both. The further consideration of the subject will be continued under the following titles: 1. What is the lease of life

of those afflicted with aneurism of the first two portions of the subclavian when treated by measures that may be employed by physicians and surgeons alike? 2. What is the lease of life when treated with distal ligature of the subclavian and carotid (*a*) when simultaneously applied; (*b*) when applied consecutively? 3. What is the lease of life with ligature of the innominate? 4. What operative expedients may be employed, that can be thought to exercise an equal influence in contributing to cure, with either the distal or proximal methods of ligaturing? 5. Conclusions.

It is, indeed, practically impossible to find reports of a sufficient number of undoubted cases of aneurism of the first two portions of the subclavian, together with innominate involvement even, from which to make a reliable statement as to the results of distal and proximal ligature, when compared with "no treatment," and with treatment employed by physicians alone in such cases. Therefore it is deemed wiser to inquire as to the lease of life in cases of subclavian aneurism, when treated by precautionary, medicinal, and manipulative methods only, all of which a physician may readily employ.

It is assumed that no patient has yet died of aneurism who had not been subjected to some variety of treatment; provided, of course, that the case had fallen under the timely scrutiny of medical observation. Precautionary treatment may be said to include regulation in dietetic and physical matters, in fact it is often, though improperly, denominated as "no treatment." Mr. Poland's 22 cases with Mr. Barwell's 9 cases, in all of which rest and regulated diet comprised the means employed as treatment, may with propriety be presented as reasonably answering the question, at this time, as to lease of life without operative interference. Two of these 31 cases recovered slowly, presumptively as the result of treatment; 2 recovered quickly, probably as the result of incidental fixation of a clot; the remaining 27 died, or at least received no benefit. According to these figures it appears that about thirteen per cent. of the cases recovered, one-half of which were cured by the treatment itself. Strict regimen, with rest and occasional venesection, are credited with 1 direct and 2 coincidental cures in 13 cases. The methods by proximal compression, direct compression, and also by parenchymatous injections of ergotin, have not been employed singly in a sufficient number of cases to warrant their precedence of the other methods just mentioned. However, they may with propriety be classed as medicinal and manipulative measures, calculated to aid the milder ones in the establishment of a cure. It now appears that of the 44 cases that were treated by medical methods, 7, or about sixteen per cent., were cured; 3 of which were direct and 4 coincidental cures. If to this result be now added those obtained by direct pressure and the ergotin injections, we have a total of 50 cases, of which 9, or eighteen per cent., were cured, 5 of which were direct cures and 4 coincidental ones. The reports of distal ligature of the subclavian and carotid arteries, either singly, simultaneously, or consecutively performed for aneurism at the root of the neck, and for subclavian aneurism, do not furnish a sufficient number of isolated cases of distal ligature for aneurism of the first two portions of the subclavian, or of the entire vessel, to enable one to judge of its worth in this respect from recorded experience.

Of 40 cases thus far examined from the original reports, at my request, by Dr. Glover C. Arnold, in which distal ligature had been employed for aneurism at the root of the neck, but one or two can be crowded even into the category of aneurism of the first two portions of the subclavian. It is not because this variety of aneurism does not occur, but because of the uncertainty of diagnosis they are relegated to the broader and self-evident site — the root of the neck. As to distal ligature for aneurism at the root of the neck, nothing remains to be said after the admirable paper on this line of thought recently read before the Surgical Society by Professor T. M. Markoe. In this paper Professor Markoe recorded 74 cases. To these can now be added the one of my own, which was the predisposing cause, at least, of this paper.

Little favorable can be said of the lease of life with ligature of the innominate. No household word is more familiar than is the result of this operation to the medical profession. This vessel has been ligatured twenty-four times at least. Fifteen of these cases survived the operation an average of nearly nineteen days each, the longest period being sixty seven days, the shortest twelve hours. The great majority died of secondary hemorrhage that happened at or about the time of the coming away of the ligature. A few succumbed very soon after the operation from complications directly incident to its performance. The well-known case of Smyth, of New Orleans, survived the operation, narrowly escaped the usually fatal result, lived ten years, then died from rupture of the re-formed aneurism, the result of reverse collateral circulation. Among the recent cases may be mentioned Thomson's (1882), which died of hemorrhage on the forty-second day; Banks's (1883), which died from the same cause at the end of the thirty-seventh day; also Bull's (1884), which died on the thirty-third day from hemorrhage. The later cases possess unusual significance, since they were performed not only by representative surgeons, but also with the aid of the highest known art of antiseptic technique. Surely the fatal termination has been much longer deferred by modern methods, but still, secondary hemorrhage claims its own with an assurance that as yet admits of no rebuff. The improvements in the physical characteristics of the ligature, and in the methods of its application are now quite sufficient to justify the operation, provided it be possible to obviate the pernicious influences arising from the contiguous and persistent blood-current distal to the ligature and those resulting from diseased arterial walls. It is of special interest in this connection to notice the condition, respectively, of the innominate, subclavian, carotid, and vertebral arteries, and the sac, as found after death from ligature, in the very few cases thus fully reported.

Bland's case (1832) died of hemorrhage on the eighteenth day. The innominate and carotid were closed by solid clots; the subclavian open; the vertebral and sac not mentioned. Bickersteth's case (1868) died of hemorrhage on the sixth day. A firm clot was in the innominate at the cardiac side of the ligature; subclavian occluded; carotid open and the seat of hemorrhage; vertebral and sac not mentioned. Thomson's case (1882), ox-aorta ligature, died of hemorrhage on the forty-second day; innominate, subclavian, and axillary arteries firmly closed; carotid closed by a clot with a soft centre; all branches of the first portion of the subclavian were pervious. The sac was lined with fibrinous layers to the depth of one-third of an inch, and newer layers appeared to be forming. In Bull's case (1884) the right common carotid and the right vertebral arteries were ligatured simultaneously with the innominate, with a double catgut ligature. This patient died of hemorrhage from the cardiac side of the innominate ligature on the thirty-third day. The innominate stump was closed with a soft clot, which was continuous with one in the aorta. The calibre of the innominate stump was twice the usual size, the walls were thickened and contained patches of fatty degeneration. The carotid was closed by a firm clot for three inches; the clot of the vertebral was not firm and the end of this vessel was imbedded in a mass of granulations. The aneurismal sac embraced the second and third portions of the subclavian was about the size of a duck egg, and contained bloody pus and disintegrating clots. In only one other case noted, Gore's (1856) is mention made of the contents of the sac, and this, in the following language: "The sac was contracted and filled with coagulum." This case had died on the seventeenth day from hemorrhage. But one rational inference can be drawn from the failure to mention the existence or non-

existence of recently formed fibrinous stratifications in the aneurismal sacs of other cases; if looked for, they were not present, for surely if they had been, their presence would have been hailed with delight, and heralded as glad tidings of surgical joy. The fatal hemorrhage in Thomson's case took place from an ulcerated opening at the point of bifurcation of the innominate, which involved the anterior portions of the walls of those vessels. If we again turn our attention to the successful case of Smyth (1864), the reasons for this success will become more apparent in view of the site of the fibrinous clots in the fatal cases just quoted, and the situation of the ligatures that caused their formation.

Smyth ligatured the innominate a quarter of an inch below the point of bifurcation, also, at the same time, the carotid an inch above its point of origin. On the fifteenth day hemorrhage took place, but was controlled by direct pressure. Hemorrhage occurred again on the thirty-third and fifty-first days, and the vertebral artery was tied on the fifty-fourth day. Following this the patient recovered, and lived for ten years, as before stated. The success in this case appears to have been due only to the control of the blood current in the subclavian, as obtained by the consecutive ligaturing of the carotid, and later, the vertebral artery. If a repetition of these expedients were to secure a similar result, with measurable certainty, then indeed they are more justifiable to-day than in 1864, since the technique of to-day will contribute in not a small degree to a favorable issue.

The operative expedients that may be employed, that can exercise rational and reasonably safe influence in contributing to cure in either the distal or proximal methods of ligature, are few, indeed, and cannot as yet be given an undisputed prominence. I shall speak of but two at length, viz., galvano-puncture and the recent method advanced by Macewen. Barwell reports three cases treated by the former method, one of which was cured, the remainder not benefited. Ciniselli collected 50 cases of aneurism treated by this method, of which 23 were successful, 20 failed, and 7 died; surely forty-six per cent. of recoveries by one means alone is a most satisfactory accomplishment. It is fair to say, however, that no mention is made of the size, location, and other important characteristics of these aneurisms, in the report consulted by me. It is likewise proper to add that the after-treatment in these cases, viz., pressure, rest, ice, etc., may have contributed to the cure quite as much as the method itself. However this may be, the results are extremely satisfactory, and the treatment is worthy of repetition. The introduction of metallic substances into the sac offers but little hope of cure; but whether or not the employment of the electric current at the same time will not prove acceptable remains to be determined. The method of Macewen, as set forth by himself in his recent address on aneurism, published in the *British Medical Journal*, November 15 and 22, 1890, together with the results obtained in the four cases operated on by him, is deserving of special attention, inasmuch as this expedient can be employed with possibly equal advantage in connection with both the distal and proximal ligaturing of subclavian aneurism. At all events the good claimed for it can be properly sought for after distal ligature of the subclavian and carotid arteries. The aim is to cure by the induction of the formation of white laminated thrombi within the sac. In other words, to endeavor to stimulate the efforts of nature in the production of the consecutive layers of fibrin that characterize nature's cure. For this purpose he employs a strong, round pin of sufficient length to traverse the dimensions of the aneurism. The diameter of this pin is proportionate to the thickness of the tissue through which it is to be passed while entering the aneurismal sac, always remembering that the smallest size consistent with the necessary penetrating power should be employed. It is pushed into the aneurism and carried to the opposite surface of the sac, and no further. The end is then caused to irritate this surface by manipulations of the operator or by movements caused by the blood-current—by the former agency if the penetrated wall be thick, by the latter if it be thin. Ten minutes' application at one point appears to be quite sufficient for the purpose; then the direction may be changed again and again, and the process repeated until, in fact, the entire opposite internal surface has been acted upon. As yet I have not had personal knowledge of the employment of this measure, but certainly I should have no hesitation in using a method bearing the approval of so able a teacher as Macewen, especially when emphasized by the results he has thus far secured by its use.

The first case was one of advanced thoracic aneurism. It had flattened the trachea by pressure and threatened life from dyspnœa. The pins were employed in the manner just described, at a few days' interval, on several occasions being retained frequently in the sac for twenty-four hours—at one time for forty-eight hours. Considerable consolidation followed, but the patient died from dyspnœa at the end of one month. At the autopsy it was found that two-thirds of the interior of the aneurism was filled with a firm, white, laminated thrombus. It was thickest at the portion to which the pin-point had been applied; thinner at the portion where the pins had entered; thinnest at the portion unirritated.

The second case was an aneurism of the upper part of the right femoral, involving the external iliac, which measured five inches in diameter. Pressure was applied to the common iliac until pulsation in the sac had entirely ceased. Then a long steel pin was passed in the manner before described to twelve different parts of the sac, with intervals of ten minutes each. The pin was then removed entirely, and pressure over the single puncture was made for about five minutes. Within two hours the walls were firmer, and at the end of two months the aneurism was entirely cured.

The third case was one of the upper part of the abdominal aorta measuring about three inches in circumference. The pin irritation was applied to this case on three separate occasions. At the end of a month the tumor could be determined only with great difficulty, and then seemed to be like a hard mass raised by the aortic pulsations. The patient, an engine-driver, returned to his labor, and two and a half years later seemed to be in good health.

The fourth case was an intra-thoracic aneurism of the subclavian, attended with great pain, numbness, œdema, and loss of power in the left arm. The sac was four inches in depth, and three in width. In this case the pin was permitted to remain nine hours in the sac, although frequently changed at the point so as to irritate the surface thoroughly. This measure was repeated four times in all, with an interval of seven to fourteen days. As the result of these sittings, and of several subsequent ones, the treatment was discontinued, owing to the great thickness of the sac walls preventing the introduction of the pin. Eight months after the first treatment the patient was in good health and free from pressure symptoms. If these successes can be duplicated in similar cases, then, indeed, a new and valuable expedient of treatment has been presented for the relief of the unfortunate.

Conclusions.—1. The lease of life gained by the so-called medical treatment of subclavian aneurism emphatically teaches that its employment should precede all other methods.

2. The lease of life following distal ligature of the subclavian and carotid arteries, for the cure of aneurism of the first two portions of the subclavian, cannot as yet be estimated, because of the paucity of these cases that have an undoubted diagnosis.

3. The lease of life following ligature of the innominate alone, for subclavian aneurism, does not justify the operation; but ligature of the innominate, when supplemented with simultaneous and consecutive ligature of the associated contiguous arteries, or by other expedients

equally well intended to aid the cure. is worthy of favorable consideration.

4. The lease of life gained by the pin-irritation method of Macewen, and galvano-puncture with its associated treatment, warrants a strong belief in the special benefits of these expedients when employed singly or with ligaturing.

VESICAL HEMORRHAGE IN PREGNANCY, WITH REPORT OF A CASE.[1]

By MARGARET A. CLEAVES, M.D.,

NEW YORK.

"VESICAL hemorrhage during pregnancy is not exceedingly rare, though so regarded," says Dr. Alexander J. C. Skene.[2]

Byford, Coulson, and Keyes make no mention whatever of this condition during pregnancy, but all speak of it as of not infrequent occurrence and good prognosis in the unimpregnated state.

In answer to inquiries circulated among a number of physicians[3] one case was reported, in which there were no symptoms, nothing to cause alarm, save the presence of a large amount of blood in the urine, which naturally frightened the patient. She was delivered at term of a dead child after a dry labor. There was little or no liquor amnii, and the death of the child, as well as the hemorrhage, were attributed by the doctor to its absence.

Etiology.—Dr. Skene[4] says, "All the cases that I have seen during pregnancy have been due to acute congestion and from distended vessels which give rise to a condition like varicose veins, and called by some hæmorrhoids of the bladder, and lastly by ulceration caused by cystitis."

"Varicose veins of the bladder found in pregnant women, usually not primiparæ, are caused by interruption of venous circulation, induced by pressure of gravid uterus."[5]

Regardless of pregnancy "cystorrhagia is usually due to some important disease of the bladder, a symptom rather than a disease."[6]

"Hemorrhages may occur in purpura, typhus, and typhoid fevers, in villous cancer, lesions of structure, and from obstructed portal circulation. The most marked predisposing cause in women is the hemorrhagic diathesis."[7]

According to Byford[8] "Hemorrhage from the bladder, not the result of organic lesions of that organ, is not in frequent. It occurs about the time of the menstrual flow and is rarely if ever sufficient to cause alarm."

"Vesical hemorrhage," according to Keyes,[9] "occurs after injuries, scurvy, hemorrhagic and eruptive diseases, cystitis, strangury from cantharides, ulceration of neck, as in tubercular or cancerous cystitis, and as a vicarious menstruation."

"Severe hemorrhages are especially liable to occur," says Winckel,[10] "when there are varicosities of the vesical neck, what may be called vesical hæmorrhoids. They are especially liable to occur in pregnant multiparæ. Simple hemorrhages are of good prognosis."

Further, according to Winckel, "Among the two thousand five hundred post-mortem examinations of female subjects at Dresden City Hospital, made by the prosector, hyperæmia alone was found but four times, while ecchymoses and hemorrhages were found twenty-one times."

"The presence of blood in the urine is an early symptom of stone. Hæmaturia[11] is a marked symptom of some form of vesical tumor. It occurs in varix of the bladder, in tropical countries from a vesical parasite, and may be caused by and be a symptom of tubercular, croupous, and diphtheritic forms of inflammation." In a research which included an examination of the Surgeon-General's library at Washington, the following is the only case which I have been able to find. Doubtless there are many others, but so incorporated in current literature as to be difficult of access.

CASE.—*Cystitis with Bloody Flux, Simulating Hemorrhage from the Uterus.*[1]—"A woman, six months pregnant, came to the clinic, complaining of loss of blood whenever she urinated; she complained at the same time of pains in lower abdomen and sensation of weight about the genitals. She could, moreover, feel the movements of the fœtus. M. Dubois examined the woman, and found nothing abnormal about the cervix; the finger, after exploring that region, came away unstained with blood. But on introducing a sound catheter into the bladder, severe pains were felt about the urethra. A small quantity of blood-stained urine escaped, and when the sound was withdrawn its extremity was stained with a bloody matter. This hemorrhage, which was first looked upon as coming from the uterus, was found to be symptomatic of a vesical inflammation."

The case which I am now about to report, and which occurred in my private practice, is not introduced on account of the treatment instituted, but on account of its etiology and the seeming rarity of similar cases.

On October 17, 1888, there came under my observation Miss C——, aged twenty; single; eldest of three children, two girls and one boy, all of whom were living. Father living and well. Mother died of consumption. Patient a typical blonde. She entered my office on the above date bearing upon her countenance the most unmistakable evidences of extreme suffering. I was convinced of her pregnancy the moment I saw her, and suspected that she came for advice with the idea of getting out of her trouble in some other than the legitimate way.

In answer to my inquiries she stated that she had always been well, at least so considered herself. There were present no evidences of tubercular trouble. Menstruation, however, had never been regular, varying in frequency from two to eight weeks. Flow always scant; never had pain nor discomfort during the menstrual cycle. Always had some leucorrhœa afterward. This became continuous during fall and winter of 1887, and still further increased in quantity during the summer of 1888, which she attributed to being on her feet a good deal. She distinctly remembers that she had just completed a period, February 24, 1888, and thinks she had one in March. She further stated that she had been perfectly well, had had no nausea, no trouble in any way save from constipation. That on October 2d she noticed a stain on her clothing and supposed she was menstruating. For three days had a little discharge, but no pain nor discomfort. This discharge, she said, came from the vagina. On the night of October 5th she stayed up to care for her brother, who was ill. Thought she took cold. On October 6th commenced to have a continuous flow of urine and blood, accompanied with intense pain in the lower abdomen. About every fifteen minutes had a gush of blood and clots. This state of things lasted for three days. At the end of that time blood continued to pass with the urine, but not alone nor in clots as before. Incontinence persisted, there being no cessation whatever to the constant passage of bloody urine. The patient found it impossible to assume the recumbent position on account of the extreme pain from which she suffered across the lower part of the abdomen whenever attempting it. From October 9th, up to the date of her visit (October 17th) she had been obliged to sit or stand both night and day. After the cessation of the hemorrhage, and about October 10th, she began to have fever every day, and at times to be chilly. Before and during the active hemorrhage had no chills nor fever. Suffered in

[1] Read before the Medical Society of the County of Kings, December 16, 1890.

[2] Skene: Personal communication.

[3] Dr. Macrae, Council Bluffs, Ia. [4] Personal communication. [5] Skene: Diseases of Bladder. [6] Ibid. [7] Ibid. [8] Diseases of Women. [9] Diseases of Bladder. [10] Diseases of the Bladder. [11] Coulson: Diseases of the Bladder.

[1] Dubois, in Journal de Médecine et Chirurgie pratiques, Paris, 2e Série, 1843, xiv., 514.

tense pain all the time and had not slept since the night of October 8th.

In compliance with my request she loosened all her clothing, removed her corset, and placed herself in the ordinary dorsal position upon the examining-chair. The latter she did with the greatest difficulty, betraying by her movements and facial expression evidences of the most intense pain, which she located over the lower part of the abdomen, and especially over the bladder. When I placed my hand upon the abdomen I could distinctly feel the movements of the fœtus *in utero*, and upon auscultation heard the fœtal heart-sounds very clearly.

Upon instituting a vaginal examination I found her clothing, undergarments, skirts, everything to her dress, stiff and stained with bloody urine; while both from her person and clothing there was exhaled the most intense and disagreeable ammoniacal odor. She said that she changed her clothing repeatedly during the day, but that she had been able to keep nothing clean nor dry for over a week. The external genitals, with the nates, were red and excoriated, and altogether she was a pitiable object.

Vaginal examination caused her great pain. The vagina was congested, swollen, and bathed with a creamy leucorrhœa. The cervix, of course, was large, soft, congested, and the os patulous. From the latter a stringy muco-purulent leucorrhœa was exuding. No blood-staining either by digital or speculum examination. Vesical examination, made by means of a soft rubber catheter only, was accompanied with the most intense pain. The urine was drawn at the time of the examination into a clean cup. There was not quite three ounces all told, and it was ammoniacal, bloody, and full of sediment. Upon examination I found it to be highly alkaline, of low specific gravity, and responding to test for albumin. The presence of the albumin was clearly due to the blood and pus contained in the urine. The sediment was very abundant and consisted of pus, triple phosphate crystals, with red blood-corpuscles, and bladder epithelium.

Up to this time no word had been said, by either the patient or myself, even hinting at the possibility of her pregnancy; but upon close questioning I obtained an admission of the truth from her; she placing, however, the time of impregnation as somewhere from the middle to the last of March. In addition, she stated that she felt something like motion about September 1st, but did not know what it was. Felt the same sensation a very few times between that and October 6th, and since then a great many times. Upon further inquiry I found that during her entire pregnancy she had worn her corsets and clothing as tight as she possibly could, and that for the few weeks previous to her coming to me she had not taken her corsets off night nor day. And further, that on September 5th she walked during the day some nine miles, visiting the State House, Des Moines, Ia., and climbing to the top of the dome; later in the day attended the State Fair, and in the evening a concert. On the 6th she walked fully ten miles, attended the fair again, and in the evening another concert. She wore upon both of these days a heavy velvet gown, which had been tight for her before her pregnancy, and which she could not fasten herself. The aid of a friend was required, who, in order to fasten the dress was obliged to pull upon the corset-laces with all her strength. I directed that her corsets be removed, clothing all loosened, ordered an immediate laxative and prescribed one-gram opium suppositories, as necessary to relieve pain, insure quiet in the recumbent position, and sleep. As she lived in a comparatively small town, where one's neighbors are disposed to make one's business their own, the patient was afraid to have me visit her at her home, but promised to keep me informed through her sister, as I told her she must not come to me, but must keep quiet. Her own family were at this time in absolute ignorance of her condition, but knew that she was ill, and her father had told her the morning of her visit that either she must see a physician or he would call one in. This brought her to me.

I saw her again on October 18th, with her father, to whom she had told her story the night previous, to arrange for her care until after confinement, in order that nothing should be known of her trouble. Her physical condition was the same as I have described. Condition of the urine just the same. Under the influence of the opium she had been able to lie down, and had slept for the first time since October 9th. Her bowels had moved freely in response to the sulphate of magnesium administered the day before. From the 18th to the 22d I did not see her, but her sister reported to me every day and brought me a specimen of the urine to examine. Incontinence persisted, and condition of urine was unchanged. Every day she had fever. As arrangements were pending to put her in a private hospital where I could have full control over her, I did not insist upon visiting her as I otherwise would have done. I continued the use of the opium suppositories, kept the bowels open, gave emollient drinks, and insisted upon quiet and rest in the recumbent position, to the furthest extent possible. The symptoms all persisted, and the only comfort she had was when under the influence of the opium.

On the evening of the 22d I was called in to see her. I found that labor pains had set in and that the os was sufficiently dilated to allow of the admission of my finger. The pains had first been felt in the morning of that day. Her body and clothing were in the same condition as when I first saw her, and incontinence continued. Pain upon lying down was but little modified. Upon examination found urine the same as heretofore described. Continued the opium in full doses and ordered her to keep very quiet. During the 23d saw her some three times. Condition unchanged. Os dilating and feet presenting. At nine o'clock I visited the patient, accompanied by a nurse, whom I placed in charge. I remained in the house and saw the patient from time to time during the early part of the night. Labor progressed slowly, and between 4 and 5 A.M., October 24th, she was delivered of a still-born male child. The child was undoubtedly asphyxiated during birth, and all efforts at resuscitation were of no avail.

It was at least an eight months' child, but I could not obtain any reliable data as to time of impregnation. The history, the presence of the child so low down in the abdominal cavity, and the fact that motion had not been felt until September 1st, had all misled me at the time of her first visit, and I had not thought her nearly so far advanced. There was no trouble after delivery. Uterus contracted well, and the lochia was normal in amount and quality during the puerperium. Following the delivery the urine dribbled continuously until 10 A.M. After it ceased dribbling there was no desire to evacuate the bladder; but when the nurse, at proper intervals, urged her to try, she passed a small quantity of urine, the character of which was unchanged. Great pain upon emptying the bladder, and afterward. At 8.30 A.M., temperature, 100° F.; pulse, 92. 6 P.M., temperature, 100.2° F.; pulse, 74.

October 25th.—No incontinence, but paralysis of sensation continued. No consciousness of urine in the bladder, but passed it when urged by nurse. Character unchanged. At 8.30 A.M., temperature, 99.4° F.; pulse, 68. 6 P.M., temperature, 100° F.; pulse, 76.

October 26th.—No change from preceding day. Urine still bloody and marked pain as before. Ordered the nurse to wash out the bladder, both in the morning and the evening, with a tepid saline solution. This was followed by some relief as to pain. 7 A.M., temperature, 100.2° F.; pulse, 72. 7 P.M., temperature, 100.4° F.; pulse, 94.

October 27th.—Condition unchanged. Bladder washed out morning and afternoon, as day before. At 5 P.M. she expressed a desire to empty the bladder for the first time since confinement. Passed water; then again at 6.30 P.M. and at 2 A.M. 7 A.M., temperature, 100.2° F.; pulse, 84. 7 P.M., temperature, 100° F.; pulse, 80.

October 28th.—Bladder irrigated as before. Patient

had desire to urinate at proper intervals. Pain somewhat less, but character of urine scarcely modified. 7.30 A.M., temperature, 99.4° F.; pulse, 72. 6 P.M., temperature, 100.6° F.; pulse, 84.

October 29th.—Began giving an infusion of buchu in connection with the flaxseed-tea, which she had had from the first. Bladder irrigated as before. Urine just the same. Complained of a great deal of vesical soreness and pain. 6.30 A.M., temperature, 99.4° F.; pulse, 74. 6 P.M., temperature, 100.2° F.; pulse, 80.

October 30th.—Directed the nurse to wash out the bladder with a pint of a two and a half per cent. solution of carbolic acid after the usual irrigation. This was followed by intense pain, tenesmus, and a profuse discharge of mucus. Ordered an opium suppository, which was followed by speedy relief. 6.30 A.M., temperature, 99.4° F.; pulse, 80. 6 P.M., temperature, 100.4° F.; pulse, 88.

October 31st.—Passed fourteen ounces of urine since 9 P.M. of previous day. At 2 P.M. passed eight ounces of urine. Very much less pain. Condition of urine markedly improved. 6.30 A.M., temperature, 99° F.; pulse, 82. 7 P.M., temperature, 100° F.; pulse, 84.

From this time on the patient steadily improved. All the evidences of cystic trouble disappeared, and by November 3d she was sitting up. From October 31st the temperature never rose above 98.4° F. but once, and then on the evening of November 3d, when it was 99° F. On November 6th she was able to get along without her nurse, and was walking about her room, waiting upon herself, with the assistance of her sister. During the first forty-eight hours, seven five-grain doses of antipyrine were given, both on account of the slight febrile disturbance and for its influence upon the lacteal secretion. There was no trouble with the breasts from first to last, and scarcely any milk secreted. Bowels were kept open by means of enemas, with an occasional laxative, and warm vaginal douches were given during the convalescence. I saw the patient last, professionally, December 11, 1888. She was entirely well, with no evidences whatever of the terrible experience she had been through save a slightly lacerated cervix. From that date up to May 1, 1890, I saw her at frequent intervals upon the street, apparently well.

As I have intimated, this case is not presented with the idea of its being of interest so far as treatment was concerned, but solely from an etiological stand point. It is well enough to say vesical hæmorrhoids or varix of the bladder, but they do not come without a cause.

Here was a healthy, well-developed girl who became illegitimately pregnant. She could see nothing to do but to conceal her condition from everyone, hoping, no doubt against hope, that something would happen ere the *dénouement* to save her from disgrace. To this end she wore her clothing as tight as was in her power, encasing herself at last in a gown of great weight, which had been tight for her before becoming pregnant, and which defied all her power to fasten. In addition, her corsets were worn continuously. On September 5th and 6th, dressed in this way, she was almost continuously on her feet from early morning till late at night—standing, walking, climbing—thereby doing what few American women, properly dressed, can do without more or less suffering. In addition, and in consequence of her habits, she was habitually constipated.

The question of traumatism, other than the long-continued one produced by her mode of dress and habits of life, will naturally arise in the minds of some, but that neither mechanical nor chemical traumatism existed I was absolutely positive.

Turning to the anatomy of the bladder we find that its vascular supply is very free, being derived from the superior, middle, and inferior vesical arteries and branches from the uterine artery. These all arise from the anterior trunk of the internal iliac artery. The anastomoses of the arterial twigs are numerous and free. The veins are also numerous and large, forming, by interlacement and connection, thick tortuous plexi about the base, sides, and neck of the bladder, and finally terminate in the internal iliac veins. The plexus about the neck of the bladder communicates with that of the labia minora, uterus, and rectum, and these are the chief elements in the so-called hæmorrhoids of the bladder. It is, of course, the venous part of the vascular system which concerns us here. Pregnancy itself tends to cause a condition of venous congestion.

Query? Was there not induced a varicose condition of the vesical veins because of the constriction about the waist, and the consequent downward pressure not only of all the abdominal organs, but of the gravid uterus as well. That this constriction and downward pressure were produced by her manner of dressing goes without saying. I read it thus. Constriction about the waist, especially over the liver, prevented return of blood from the valveless ovarian and hæmorrhoidal veins, thereby inducing a condition of blood stasis in them; pressure of the gravid uterus, both on the common iliac, which has no valves, and the veins which terminate in it, caused the veins of the bladder to become so distended that at last they ruptured, and hemorrhage in the bladder, with formation of clots, was the one result, and vesical paralysis from the steady downward pressure the other. For three days the hemorrhage and incontinence persisted. Then the passage of blood and clots, independent of the urine, stopped; but incontinence with bloody urine remained, and symptoms of vesical inflammation—chills, fever, pain, with mucus and pus in the urine—supervened.

That the hemorrhage into, and presence of clots in, the bladder set up an irritation which, with a possible exposure to cold induced the cystic inflammation, there can be no doubt. The case was one of great interest to me, and added but another to the already over-burdened list of reasons why women should clothe their bodies in accord with both anatomical structure and physiological function, not to speak of artistic fitness. True, it may be said that this is an extreme case. But may we not well question whether the influence of woman's mode of dress, and habits of life as well, are not productive of many of the vesical symptoms which are laid down in our obstetrical text-books and obstetrical teaching as a part of the necessary pathology of the pregnant state. That we get from a slight vesical irritability to very grave cystic troubles in pregnancy, there is no doubt, and while it may not be possible to do away with them entirely, I believe that proper dressing and right living would be productive of marvellous results in this direction.

And then a pregnant woman may so clothe herself, with loose and flowing garments, as to not only be artistically dressed, but healthfully as well, and enabled thereby to conceal her condition from the casual observer, rendering it possible for her to pursue her usual avocations and to take the out-door exercise which many a pregnant woman foregoes because of her sense of modesty. The conventional dress of the woman of to-day emphasizes her condition and forces attention thereto.

143 West Thirty-fourth Street.

Aseptic Tongue Spatula.—Dr. E. L. Oatman, of Nyack, N. Y., writes: "In addition to the danger of contagion connected with a universal tongue depressor, its use is so suggestive as to be resented by many patients of delicate sensibilities. To obviate these objections I have for a number of years, in ordinary throat examinations, employed cheap wooden spatulas which, once used, are immediately thrown away. The best wood for the purpose is maple, sawn into strips one inch in width by one eighth of an inch in thickness, which are then cut into six inch lengths. The rough surface as left by the saw-teeth gives the spatula an excellent 'hold' on the tongue. They are readily made at any planing mill for a trifling cost per thousand."

EXPERIENCE WITH TRICHLORACETIC ACID IN TWO HUNDRED CASES OF AFFECTIONS OF THE THROAT AND NOSE, WITH DEMONSTRATION OF INSTRUMENTS.[1]

By J. W. GLEITZMANN, M.D.,

PROFESSOR OF LARYNGOLOGY AND RHINOLOGY IN THE NEW YORK POLYCLINIC.

At a previous meeting of the Laryngological Section of the Academy of Medicine I mentioned, in the course of a discussion concerning the use of the galvano-cautery in diseases of the nose, that I had begun applying trichloracetic acid for similar purposes. I stated at the time, that the effect of the remedy had been very satisfactory to me and that it encouraged further experiments. I now beg leave to lay before this body the results of my investigations, as this caustic has proven in my hands a very valuable addition to our materia medica, and deserves a more extended trial by other observers.

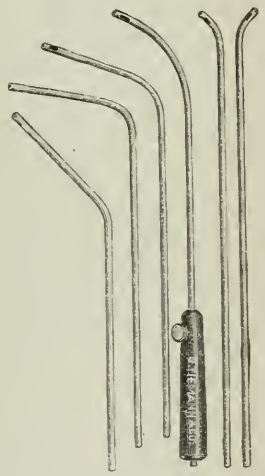
The application of trichloracetic acid in throat and nasal affections is of recent date. As far as the writer is aware, Dr. Ehrmann was the first to publish an account of experiments on one hundred and forty patients in the *Munich Medical Weekly* and the *New York Medical Monthly* in the spring of this year. In his papers he states that his attention was drawn to the remedy by Dr. Stein, of Moscow, who demonstrated to him and others the application of the caustic in turbinated hypertrophy in the throat clinic at Heidelberg. He finds trichloracetic acid superior to chromic acid, and claims excellent results from its use.

As to its chemical composition, trichloracetic acid belongs to the group of acetic, or more properly speaking of glacial acetic acid, and is an addition-compound of the latter and chlorine. The chemical formula of glacial acid is $C_2H_4O_2$, and there exist three addition-compounds of the acid and chlorine. In each of them the chlorine displaces one or more atoms of hydrogen. The formula for monochloracetic acid is therefore $C_2H_3ClO_2$, for bi- or dichloracetic acid $C_2H_2Cl_2O_2$, and for trichloracetic acid $C_2HCl_3O_2$. This chemical composition, viz.: the preponderance of the chlorine at the expense of the hydrogen, explains the difference of action of trichloracetic and glacial acetic acid. Both are strong caustics, but whilst the eschar of the latter is voluminous and its application generally followed by reactive obstruction, the eschar of the former is dry, firmly adherent, and the cauterization as a rule accompanied by no unpleasant symptoms.

Trichloracetic acid is sold in white crystals, which are readily soluble in water and alcohol and extremely hygroscopic. Merck's preparation, which I exclusively employed, is furnished in one-ounce bottles, and, to prevent its deliquescence as much as possible, it is advisable to take a small part of the acid from the vial and to put it into a smaller bottle for daily usage. This precaution was found necessary, as even when working with thoroughly dry instruments the frequent exposure of the crystals to the air when opening the bottle is sufficient to liquefy them. To further retard their melting too rapidly I made use of applicators, which I employed for several years in cauterization with chromic acid, a method which also had been adopted by Ehrmann. The instrument consists of a simple rod, which is best made of flexible material, and has an excavation at the distal end. The acid can be rubbed into the excavation by quick movements, leaving the bottle open only a few seconds. In this manner I succeeded in using up a whole ounce of the acid, without losing any by its hygroscopic tendency. The acid remains in the excavation of the applicator, and after the crystals accumulating on the lower end of the rod have been wiped off with cotton, the cauterization can be made.

In course of time it was found advantageous to add for certain purposes an eye at the side of the rod, as this assured a more rapid outflow of the acid and its quicker action. The rods recently improved and manufactured by Messrs. Tiemann & Co. I herewith present to the section. They are made of aluminium, which will not corrode by contact with the acid, and are moderately flexible, thereby allowing of any desirable curvature, if we do not wish to have a separate instrument for each application.

They are six in number, three for the nose, one for the base of the tongue, and two for the larynx. Two nasal applicators have eyes, one for the right, the other for the left inferior turbinated, the third with the nasal curve serves for cauterization of the middle turbinated, the fourth I used for hypertrophy of the lingual tonsil, and the laryngeal with the eye on its posterior surface for the interarytenoid space, the last one for other applications to the larynx, vocal cords, etc. The slight curve on the nasal applicators for turbinated hypertrophies I found useful for reaching and cauterizing their posterior surface. By carrying the distal end of the rod over the turbinated body and



then lowering it, the posterior portion of the hypertrophy is cauterized, without pressing the applicator through the sometimes narrow space between the septum and the turbinated. As all the acid is confined to the excavation in the applicator, a cauterization of other parts, which we wish to leave untouched, is thereby avoided, provided the rod is thoroughly dried with cotton before its introduction. Of course these instruments are capable of all possible alterations to suit individual cases and the predilection of the practitioner, but the applicators shown have fulfilled all desirable wants in my hands.

The pain produced by cauterization in the pharynx is insignificant, and neither children nor delicate nervous adults require any previous application of cocaine. The nose being a more sensitive organ, a ten per cent. solution of this drug is best employed before the introduction of the acid. As the applications of the acid to the larynx—at least as far as my experiments with it are concerned—were confined to certain localities, and as it was desired to avoid contact of it with other parts, the larynx was thoroughly anæsthetized with a twenty per cent. solution of cocaine, thereby localizing the effect of the acid, and avoiding pain and laryngeal spasm.

The eschar which is formed I found to be uniformly the same in appearance. As mentioned before, it is white in color, smooth on its surface, and in by far the majority of cases dry. This latter quality is a great advantage of the acid, in as much as it does not spread to other tissues, as do other similarly deliquescent caustics,

[1] Read before the Section on Laryngology and Rhinology of the New York Academy of Medicine, December 23, 1890.

for instance, chromic acid. But the most agreeable feature of the acid, which in my opinion is also due to the dry nature of the eschar, is the absence of inflammatory swelling and unpleasant after-effects. The applications to the pharynx and larynx under cocaine produce no manifestations whatsoever, and after cauterization of nasal hypertrophies only a small number of patients experience a mild, short-lasting coryza. The eschar remains generally from two to five days, after which time it is either expelled or can easily be detached with suitable instruments. Regarding the exceptions to this rule I shall make some statements after having given a résumé of the cases which form the basis of my paper.

My observations extend over 200 cases, which with one exception were treated in private practice from April 29 to December 1, 1890. In addition, a considerable number of patients were treated during this time at the dispensaries to which I am attached, but as it was impossible to keep accurate records, they could not be used for our purpose. The age of the patients ranges between six and seventy, 109 were males, 91 females. As several patients suffered from afflictions of more than one locality, the number of applications to different parts is somewhat higher, viz., 227. In the beginning I confined myself more to affections of the nose, but after my return from Europe in the fall, I gave the remedy a wider range and extended its use to other lesions, which I expected to be favorably influenced by its action. The diseases in which trichloracetic acid was employed, were: 170 cases of hypertrophic conditions of the nose, 25 of hypertrophy of the lingual tonsil, 6 of hypertrophy of the faucial tonsils, 12 of granular pharyngitis. Two applications were made to cartilaginous spurs of the nasal septum; one to a perforation of the system with scab formation; one with the intention of lessening excessive secretion of the nasal chambers without any other demonstrable disease; three to the interarytenoid space; two in phthisical subjects; one in a patient with pachydermia of the larynx, and seven times a cauterization was made to the wound produced by the galvano cautery, with the expectation of obtaining a dry eschar and thereby lessening the subsequent swelling and reaction.

Although not strictly belonging to the scope of this paper, I will mention that I applied the acid in two cases of aural polypi with success in one patient, who allowed the treatment to be carried out, while the other was treated only once.

As one is always in danger of becoming too enthusiastic when advocating and experimenting with a new remedy, I was very careful to take notes of failure or unsatisfactory results, when such took place. It will be my endeavor in analyzing my records, to point out to you the deficiencies and shortcomings I experienced, in order to enable you to form an unbiassed opinion about the efficiency of the remedy.

Instead of taxing your patience with an array of histories of cases, which do not present any special interesting features, and the symptoms of which are all familiar to you, I shall confine myself to give a résumé of the groups of diseases enumerated above, and only refer to details when occasion calls for. I shall leave the analysis of pharyngeal and nasal hypertrophies for a later consideration, and begin with those affections in which the smallest number of applications have been made, and where the larger number of failures have to be recorded.

Trichloracetic acid had little or no effect when applied to cartilaginous spurs of the septum or to an artificial septal perforation, on the edges of which large crusts had been constantly forming. In neither case an opportunity was offered to continue the treatment long enough to give it a fair trial, but from what I could learn, especially from one case, I am inclined to believe that the acid makes very little impression on cartilage. The case of rhinorrhœa was treated for experiment's sake only in the hope that the dry eschar generally formed by the acid might bring on some tissue change, and in this manner decrease the secretion. As this effect was not produced, other means had to be resorted to.

Of the three patients treated for affections of the interarytenoid space, one case cannot be considered, as only one application was made. One phthisical patient, whose vocal cords were intensely hyperæmic, but whose larynx showed no ulceration nor extensive infiltration, presented a honeycombed, thickened surface of the posterior wall, interfering with complete closure of the glottis posteriorly, and thus causing hoarseness. Two applications of the acid in the interval of twelve days were followed by a healthy appearance of the parts, and, in conjunction with treatment of the vocal cords, materially improved the voice. The same result was obtained by three applications in a dispensary patient, suffering from a dense and hard infiltration of the interarytenoid space. Although not mentioned in the above list, I may state that I have also at present under observation and treatment, a patient with a small papilloma of the right vocal cord, which has decidedly decreased in size by cauterization with the acid. These four cases are too few in number to draw any definite conclusions, still I cannot but help express it as my belief that this remedy is destined to be used more extensively in the larynx. The larynx is an organ in which it is desirable to confine, in many cases, the application of a caustic to a circumscribed locality. Trichloracetic acid forms a dry eschar at once, which prevents it from spreading to other parts. Another of its features which is especially valuable in the larynx, is the absence of all subsequent swelling and reaction, which we observe frequently with the use of the galvano-cautery in the larynx. Localized infiltrations of the mucosa of the vocal cords, which we sometimes see in catarrhal conditions, small growths, ulcerations, also infiltrations, can, in my opinion, be successfully treated with the acid. If Koch's method does not abolish the endolaryngeal treatment of laryngeal phthisis, patients who cannot be subjected to the surgical treatment will find relief by the judicious use of the caustic.

The number of patients treated for granular pharyngitis and hypertrophy of the faucial tonsils is small and out of proportion with the total number. In both instances I could not overcome my predilection for the galvano-cautery, which, with proper precaution, gives but little after-pain and assures quicker results. But with the patients suffering from granular pharyngitis and treated with the acid, success was obtained in by far the majority of cases, and only a few applications (from three to four) were necessary to bring on reduction of the granulations. Five patients had simple granular pharyngitis, and seven so called lateral pharyngitis. In the latter class, in which the galvano-cautery is generally followed by pain and discomfort, no unpleasant sequelæ were observed. Tonsillar hypertrophy seemed not to yield so readily to the caustic, and required a larger number of applications. Two patients did not complete their treatment, and were seen only twice; in the other four a thorough reduction of the tonsil was effected. In one of these, a professional singer, thirteen applications of the acid were necessary to achieve the desired end, and they were made on account of the positive objection of the patient to the galvano-cautery. In such cases I consider the acid one of our most valuable means to destroy the hypertrophy, but I find, contrary to the observations made by Ehrmann, that the galvano-cautery in pharyngeal, as well as in nasal, hypertrophies, is superior to the acid in efficiency, and that a larger number of applications of the latter are necessary to accomplish our purpose.

I gave trichloracetic acid a thorough trial in hypertrophy of the lingual tonsil and have the records of 25 patients. Five patients were cauterized but once and are therefore left out of consideration, in 8 the galvano-cautery was used in addition, leaving 12 cases which were treated with the acid only. To these 12 patients altogether 74 applications were made, an average of about six; the smallest number producing a favorable effect was 2, the

largest one made was 18, which were made to the same patient, requiring 13 applications to her faucial tonsils. The majority of the 20 patients were discharged cured, 6 are still under treatment, and with 2 exceptions all are more or less benefited. One lady was cauterized twice, but did not experience any relief from the scratching and burning in her throat. The other patient, although presenting a well-marked lingual hypertrophy, only got rid of the burning and sensation of pressure in the throat after an energetic scarification of his faucial tonsils. A few of the cases in which the acid and galvano cautery were used conjointly deserve mention. A former student of mine at the New York Polyclinic who complained of dryness in the pharynx necessitating constant clearing of the throat, expressed himself as feeling very much better after the first application. As he desired to return home without much delay, the remaining portion was destroyed with the galvano-cautery. A lady who suffered several years from a dry, spasmodic cough with occasional hoarseness, presented at inspection a large, grape-like hypertrophy in the median line, touching the edge of the epiglottis. The growth being too large to yield readily to the acid, was snared off with the irido platinum wire, and the rest treated with trichloracetic acid with the most gratifying result. I have a letter from the husband of another lady, who is at present confined to her house on account of illness, that her throat is greatly relieved. She also was troubled with tickling in her throat and a most harassing cough, and two applications with the acid were made. I cannot conclude this chapter without alluding to the history of a patient, who for the last eight years was troubled with an incessant desire of swallowing. If I had not been aware that so-called empty swallowing is one of the symptoms of lingual hypertrophy, I would probably have overlooked the organ entirely, as only insignificant small nodules and a few varicose veins appeared on its surface. The effect of the first application was marvellous, and elicited the most eulogistic remarks on his part. As he is not cured yet entirely, the applications are continued, although only a few enlarged veins are visible at present.

In turning to the last subject of my paper, the treatment of nasal hypertrophies, I must state at the onset that it is impossible with the time at my command to analyze the individual cases as thoroughly as it had been done in the previous chapters. Before going into details I wish to mention another experiment I had used the acid for. There are a number of patients who present a stenosed condition of the nostrils without deviation of the septum or true turbinated hypertrophy. Similar conditions sometimes remain after correction of a deviated septum, and I often found it a tedious undertaking to establish a free opening. In three cases of this nature I attempted to dilate the nostril by introduction of the acid to the stenosis, but soon found that the result was decidedly less satisfactory than with the use of my tupelo tents, and therefore desisted from further trials.

Among the 167 cases remaining 5 had hypertrophic conditions arising from the nasal septum, of the balance 47 were treated but once, leaving 116 patients who were cauterized more or less frequently. The number of applications ranged between 2 and 14, and in one case being as high as 20. This patient, previously subject to repeated and violent attacks of sneezing, had made daily use of cocaine to the nostrils during an interval of treatment. The employment of the galvano-cautery being inopportune on account of extrinsic reasons, it required prolonged and extraordinary efforts to destroy the large and dense hypertrophies. The average number of applications to promote decrease or destruction of turbinated hypertrophy of one side, is about four. It is to be expected that with the introduction of the new instruments shown to the section, the number of cauterizations necessary will still be lessened, as the applicators of the old style, which I have been using till a month ago, have no eye and a smaller opening, therefore taking up and giving out less acid. Although favorable results were the rule and in a fair proportion followed already after two applications, it was found that a number of patients required more energetic measures, and with twenty-two the galvano-cautery was used besides the acid. On the other hand trichloracetic acid proved effectual with two patients who previously had been treated with chromic acid, which I have entirely abolished in my private practice during the time of these experiments.

In no locality where trichloracetic acid had been employed are its advantages over other remedies in regard to the small degree of discomfort following its usage more obvious than in the nasal passages. As stated before there is no consecutive swelling, no inflammatory reaction, the dry eschar remains firmly adherent to the parts and guards them against infection. The patients can leave immediately after the application without any subsequent dressing or cleansing of the cauterized surface and require no home treatment at all, a feature which cannot be appreciated too highly.

The time the eschar requires for its elimination is, as previously mentioned, from two to five days, but differs also sometimes in the same patient when two turbinated bones are cauterized. I have kept memoranda of this condition in a number of cases, and observed that in two patients the eschar had disappeared in one nostril after two and three days respectively, while it was adherent in the other, both nostrils being treated on the same day. In two cases, one of which was the patient requiring twenty cauterizations, I could never detect an eschar after two days. It is remarkable that with the large number of applications made, only two patients were found who suffered from unpleasant after-effects, similar to what we were prepared to see after the use of the galvano-cautery, glacial acetic acid, nitric acid, etc. One was a girl of fourteen, the other a man of forty years of age, both of a highly nervous temperament. In each instance the eschar was moist, swollen, and filled the larger part of the nostril. Fulness of the nose and copious liquid discharge, resembling acute coryza, were the natural consequences. After four days these symptoms subsided, but reappeared with a subsequent cauterization.

I cannot close this chapter without alluding to another use of the acid, although I had but just commenced experimenting when I received the request of our Chairman to read my paper this evening. My observations are of too recent a date and too few in number to allow of any definite conclusions, and I therefore mention them only in the hope that they will be taken up by others and their value determined. In a paper read before the last International Congress, and in an article published in the *Therapeutic Monthly*, of October, Bresgen, of Frankfort, recommended pyoctanin after galvano-caustic operations in the nose. I have no personal experience with his method, but tried trichloracetic acid for the same purpose, viz., to prevent subsequent swelling and reaction. I operated seven times on six patients for hypertrophy of the inferior turbinated. In four cases the eschar remained perfectly dry, and could easily be detached on the fourth day. Twice it became soft and created considerable liquid discharge from the nostril without causing obstruction. One patient, on whom one turbinated had been operated upon successfully, suffered from stenosis and headache after the second operation during the following day, and was completely relieved by removal of the eschar on the third day. No home treatment was adopted in either case, and no dressing of any kind was used. It is to be expected that with the proper use of trichloracetic acid the unpleasant symptoms often following galvano-cautery applications will be considerably lessened.

In summarizing my paper I beg to offer the following conclusions :

1. Trichloracetic acid compares favorably with other caustics in hypertrophic conditions of the throat and nose, and is a valuable addition to the remedies now in use.

2. In the greatest majority of cases it is sufficient to produce the desired reduction of tissue, although it does not supersede the galvano-cautery.

3. It can be applied with safety to the larynx without any evil consequences.

4. Its chief advantage in nasal affections is the dryness of its eschar, which prevents unpleasant sequelæ and makes after treatment unnecessary.

117 Second Avenue.

THE USE AND ABUSE OF DRAINAGE IN SURGERY.[1]

By JAMES E. MOORE, M.D.,

PROFESSOR OF ORTHOPEDIC SURGERY IN THE UNIVERSITY OF MINNESOTA.

The besetting sin of our profession is our tendency to go to extremes. We discover something the judicious use of which would be of untold value to the human race, and are not content with its proper use, but must needs overuse it until its use becomes an abuse, when a reaction sets in and abuse is many times followed by disuse. In the matter of drainage of wounds we are still in the stage of abuse. Reaction has already set in, and inasmuch as proper drainage is such a vital part of surgery, it is our duty to study the subject carefully and not allow disuse to follow abuse. This reaction first began in abdominal surgery, and already we have learned that in a certain class of cases in which we at one time thought drainage an essential, we get the largest percentage of recoveries without drainage. Laparotomists have pretty nearly arrived at the truth, viz., that septic cases and doubtful cases should be drained, and that aseptic cases are better without drainage. I fear that in this important branch of surgery the reaction has a tendency to go too far, and that certain cases are left without drainage that would be better with it. We can also see some reaction in amputation wounds, where, instead of the sewer pipes of former days, we use drainage tubes of smaller size, or none at all.

We, as members of the grandest profession on earth, have weighty responsibilities, and are held strictly accountable for our deeds and misdeeds, but being only human beings are entitled to the privilege of changing our views with increase of knowledge. In fact this is the only way we can advance. The very fact that our responsibilities are such weighty ones should remind us that we should guard against our besetting sin and avoid extremes. This can only be done by refusing to accept the *ipse dixit* of any man, no matter how exalted his position may be, and by basing our change of views upon facts, instead of following in each other's wake like a flock of sheep.

The thorough drainage of wounds has been considered of primary importance for many years, but when Chassaignac suggested the use of drainage-tubes in 1855 his reason for draining was very different from that of the surgeon of 1890. He drained to allow of the free escape of pus. We drain in recent wounds to prevent the formation of pus. The necessity for drainage in an infected or suppurating wound is universally understood. The more perfect the surgeon becomes in his antiseptic methods the less he needs drainage-tubes and their various substitutes, and when he arrives at that stage of perfection in his methods that insures him an aseptic wound every time he operates he can dispense with them altogether. In all recent works on surgery we are advised to use drainage-tubes to carry off the excessive discharges from a wound, but we are not advised to make an opening at the seat of a fracture to carry off the discharges. Those who first learned of the value of drainage in open suppurating wounds, also learned that Nature took care of the discharges from a subcutaneous wound. When we have so perfected our methods of wound-dressing that we can place an open wound in the same condition as a subcutaneous wound we will no more think of draining in one any more than in the other. If a wonnd is aseptic Nature will take care of the discharges, just as she does in a subcutaneous wound. In a simple fracture of the femur there is much greater effusion of blood and serum than in any operation wound, and we never think of draining it off. Nature takes care of it promptly, the only disturbance being a transient rise of temperature.

Twenty-five years ago surgeons drained to carry off the pus. Fifteen years ago they drained to carry off the discharges so that they would not putrefy. At the present time we drain largely from force of habit. We no longer believe in spontaneous generation, or that the discharges putrefy without first having been infected from without. Blood in an aseptic wound becomes partly absorbed and partly organized. Serum should not be looked upon as something to be gotten rid of, for it undoubtedly has an important function to perform in the reparative process. In certain cases that we are learning more about every day, viz., infected cases, we must always drain. I maintain, however, that in aseptic cases drainage by means of rubber or other open tubes is not only useless but adds an element of danger. We learned the value of drainage when septic surgery was practised, and notwithstanding the fact that our reasons for drainage have undergone very radical changes, we have been using drainage-tubes too nearly like we did at first. The principal difference is, that we originally allowed the drainage tubes to protrude through the dressings, thereby infecting every wound. We are now very careful to cover the ends of the tubes and to allow everything to pass out, and nothing to pass in through them, which is an exceedingly difficult matter. Aside from the fact that a drainage-tube is a foreign body and interferes with primary union, the one great danger is that it keeps an entrance-way open through which germs may enter and infect the wound.

It is customary to close small wounds in all parts of the body without drainage with very satisfactory results. I can see no reason why a large wound should require drainage any more than a small one, for the amount of absorbing surface bears the same proportion to the discharges in the one as in the other. I believe we have allowed the size of the wound to influence us too much when deciding whether to drain or not. The character and not the size of the wound should decide the question. I fear that we have fallen into the habit of draining every wound without thinking whether it is necessary to drain or not.

I was first led to question the propriety of draining every large wound by the annoyance occasioned by rubber drainage-tubes after operations upon tubercular joints. I found that the sinus caused by the drainage-tube almost invariably became infected and prolonged the case unnecessarily. Although I still drain in cases of this kind when there is a possibility that I may have overlooked some focus of disease. I never use rubber tubes, but use strips of iodoform gauze. In excision of the knee joint my happiest results have been in cases where I have omitted drainage altogether, or have used a few strands of catgut. I get more satisfactory results after amputations, after operations upon breast and axilla, and in fact in all clean-cut wounds, without drainage than with it. No one prizes drainage more highly than I in proper cases, but it is not necessary in an aseptic wound. Those who do not work antiseptically must always drain, because blood and serum when not protected from germs will surely putrefy in a wound, where all the necessary auxiliaries are found. The most zealous advocates of drainage are those who denounce antiseptic surgery.

It would be amusing were it not such a serious matter to see how zealous a dirty surgeon is in the matter of drainage. He usually carries his rubber tubing in the bottom of his satchel, after taking it from a dusty drawer

[1] Read before the Hennepin County Medical Society at Minneapolis, January 19, 1891.

in his office, and if he has not infected his wound earlier in the operation, always does so when he introduces his tubes.

When carbolic acid was so extensively used drainage was always necessary, on account of the excessive discharge caused by the acid. Lister, in his address before the last International Medical Congress, said that it would be a grand thing if we could do away with drainage altogether, and cited an instance in which he uses but one tube of moderate calibre where he formerly used four of various dimensions. He speaks of the time when we shall have found drainage no longer necessary as the fulfilment of his early dream. If this great benefactor lives out his expectancy, I feel certain that he will see this day. The enemies of antiseptic surgery point to these advances of Mr. Lister's as evidence of its decay. But every fair-minded man knows that there has been no change of principles.

With all its perfections antiseptic surgery is far from being perfect yet, and many changes of detail are necessary, but these changes instead of being evidences of decay are certainly advances.

As Mr. Lister suggests, these advances are all in the direction of the hermetic sealing of wounds, and this is certainly the ideal method, as it is Nature's method. The hermetic sealing of wounds has been faithfully tried in the past, but the trial was made at a time when the principle of wound infection was undiscovered, and it was necessarily a failure.

Mr. Tait, in his criticism of Mr. Lister's address, claims everything for drainage. He says that when all decomposable material is removed by drainage, germs may be admitted freely. He states that the exclusion of germs is an impossibility, but does not seem to understand that perfect drainage is also an impossibility.

Professor Erichsen, in some recent remarks upon this controversy, has certainly sounded the key-note when he cites the fact that two elements are necessary for putrefaction in wounds, viz., putrescible material, and infective germs, and says that the disputants accomplish the same end by different means: Mr. Tait by removing the pabulum, and Mr. Lister by filtration of air and by germicides. He very wisely asks, "Is it wise to be exclusive in the employment of one or the other of these methods?"

I am certain that many wounds have been infected through the drainage-tubes because it was impossible to keep the ends of the tubes covered by the dressings. I have found it very difficult to keep the dressings close to the wound after radical operation for hernia, and have gotten much better results since I began to apply small strips of iodoform gauze with collodion.

In some operations upon bone, and in Phelps' operation for club-foot, special effort is made to secure a blood-clot in the wound, in order that it may become organized. Ordinarily, however, it is important to stop all hemorrhage before closing a wound that we do not wish to drain.

I wish to offer as proof of my position a very brief report of a few cases.

Case I.—Mr. M——, aged twenty-eight, had been suffering from an acquired talipes equino-varus for some years, and had gotten to be so helpless that he was referred to Dr. Hunter for amputation, who sent him to me hoping that I might overcome the deformity and save the foot. After having given ordinary orthopedic measures a fair trial, and finding that they were inefficient, I decided to follow the patient's suggestion to "make that foot toe out or cut it off." In May, 1889, at St. Mary's Hospital, assisted by Dr. Dutton, I applied an Esmarch from toe to knee, and made a free incision through all the soft parts on the inner side of the foot just in front of the malleolus—in short, did a Phelps operation. I found, however, that, owing to the extensive anchylosis in the tarsus, very little was gained. I then did a linear osteotomy through the neck of the astragalus, after which the deformity could be only partly overcome. I then removed a wedge-shaped piece from the outer side of the tarsus, after which the deformity was over-corrected. After thorough irrigation with a 1 to 2,000 solution of bichloride of mercury, a piece of rubber tissue was placed over the gaping wound on the inner side of the foot, leaving a large space to be filled with blood-clots. An antiseptic dressing was applied without drainage-tubes, and over it a plaster-of-Paris bandage. The last thing done was to remove the Esmarch and allow the wound to fill with blood. The next day the patient had a temperature of 101° F. At the end of a week he felt so well that he insisted upon going to his home in the southern part of the State. On July 4th he returned, and upon removing the dressings I found the wound perfectly healed and the foot in an excellent position.

Case II.—A lad of sixteen, who was suffering from a tubercular ostitis of the right knee, came to me in August last. At the Northwestern Hospital I made an excision of the knee-joint. There was much destruction of the soft parts, and several points of disease extended well down into the head of the tibia, so that there was a large wound surface and two good-sized cavities in the tibia. The patella was removed and the bones were nailed together with four steel nails. The usual antiseptic dressings were applied with only a few strands of catgut in either angle of the wound for drainage. A plaster dressing was applied. The patient never had a temperature over 100° F., and had no unfavorable symptoms. At the end of thirty days I found the wound perfectly healed and bony union taking place, and eight weeks after the operation I brought him before this society showing a perfect result. The first dressing was not soiled, showing that there had been no drainage.

Case III.—In July, 1890, at the Northwestern Hospital, I amputated a carcinomatous breast and removed all of the axillary glands from a patient aged thirty. No drainage. Perfect union of axillary wound by first intention.

Case IV.—In September, 1890, was called by Dr. Rochford to see a child, less than one year old, suffering from a strangulated inguinal hernia. With the Doctor's assistance I relieved the constriction and performed a radical operation. No drainage in either deep or superficial wound. After the fourth day all bandages were removed. The child made a perfect recovery in a much shorter time than would have been possible with drainage tubes. In this case I do not believe it would have been possible to have prevented suppuration with drainage-tubes, on account of the age of the patient.

I do not deem it necessary to cite a case of prompt recovery without drainage after laparotomy, because this is of everyday occurrence. Although I never drain after laparotomy without special indication, I have found it necessary to drain in many of my cases, because they have been those of the character coming under the care of a general surgeon rather than a gynecologist.

Excitability of Nerve-Roots.—Two Italian observers have recently related the results of a series of experiments undertaken to determine the influence which the posterior nerve-roots have on the excitability of the anterior roots. (*The Lancet.*) In the first series of experiments the posterior roots were treated with cocaine; in the second the posterior roots were divided; in the third the posterior roots were stimulated electrically; while in the fourth series the cord was divided below the medulla. It was found that when the posterior roots were rendered functionless the excitability of the anterior roots was diminished; but when the posterior roots were stimulated in any way there was produced an over-excitability of the anterior roots, which went on in a short time to diminished or even abolished irritability, and the same results were found when the cerebro-spinal system was intact and when the cord was divided below the medulla.

Progress of Medical Science.

The Recognition of the Gonococcus.—Dr. Steinschneider maintains, in opposition to a statement of Fürbringer's, that the application of the Gram method of staining micro organisms is necessary to the satisfactory study of the gonococcus, inasmuch as the only positive characteristic of this coccus is that it is not stained by this method, while nearly all other diplococci found in the urethra are colored thereby.

These conclusions, which agree with those of Roux, Allen, and Wendt, are the result of the examination of eighty-six patients with acute and chronic gonorrhœa. The almost entire certainty of this test is rendered absolute by the observation of the further character of the gonococci, namely, that they are found within the pus-cell.—*Centralblatt für die Med. Wissenschaften.*

The Blood and Urine of the Insane.—Dr. Smyth (*The London Medical Recorder*) has made a careful study on this subject. Four classes of patients have been subjected to examination and experiment, including subacute cases of melancholia, epileptics, general paralytics, and the subjects of secondary dementia. Epileptics have been studied under the conditions of freedom from fits, during or immediately after fits, and in three cases the examinations were conducted for thirteen days on a mixed diet, and for twenty days on a fixed diet. The most careful arrangements were made to insure accuracy and uniformity in the experiments, and comparisons were instituted with the blood of fifteen healthy men, aged between twenty-three and fifty years. In the case of epileptics there was an average diminution in the number of red corpuscles, and the same observation holds true also with melancholiacs and other insane conditions, the hæmoglobin being consequently markedly deficient as compared with what obtains in ordinary healthy individuals. The most conspicuous defect in this connection is, however, found in secondary dementia, the differences in amount in the three conditions of melancholia, general paralysis of the insane, and epilepsy being inconsiderable. It is shown also that the blood-plasma is especially dense among the insane, since, notwithstanding the deficiency of hæmoglobin, to which element the weight of healthy blood is greatly due, the difference between its specific gravity and that of the blood in insanity is extremely slight; hence the plasma must necessarily contribute to make up the weight-giving quality of the tissue. The variations in the other solid elements of the blood presented nothing much worthy of note, nothing of a constant character having been found in this relation. With regard to urine, Dr. Smyth finds that the amount of this fluid passed is greatest in general paralysis of the insane, in which it considerably exceeds the healthy standard, while it is least in secondary dementia. The total solids also are greatest in general paralysis, and least in secondary dementia, the variations being within small limits in the other diseases. The further conclusions arrived at in this connection are, that healthy men do not excrete more urea than insane patients; that in general paralysis, epilepsy, and melancholia, the urea seems almost equal in the amount secreted, though dements excrete less; that uric acid is increased in the excretions of the insane, being greatest in general paralysis, epilepsy, and dementia; that creatinine is higher in general paralysis and in dements than in health, and that phosphoric acid is in slight excess in epilepsy.

Differential Diagnosis of Diseases of the Blood.—According to Professor v. Jaksch, the first step is to make a simple microscopic examination of the blood. This enables us to recognize oligocythæmia, oligochromæmia, poikilocytosis, and leukocytosis, also leukæmia and melanæmia. Poikilocytosis is a condition, not a distinct disease; high grades of it occur in every case of advanced anæmia. The next step is to count the cells in a given volume of blood, and to determine the proportion between the red and white corpuscles by the Thoma-Zeiss apparatus, or that of Malassez as modified by Gowers. Thirdly, the hæmoglobin must be estimated by Heischl's or Henocque's apparatus. We may pronounce the case as one of anæmia when there is diminution of the number of red corpuscles, or a diminution of hæmoglobin. These two conditions usually coexist. If they do so in equal degree, we have simple anæmia, as after great loss of blood, or after various acute and chronic diseases. Characteristic of pernicious anæmia are the extreme progressive oligocythæmia, the diminution of hæmoglobin, and the increased size of the red corpuscles. Chlorosis affords nothing characteristic; the number of red corpuscles is apparently normal, but their hæmoglobin is less. Anæmia after severe malaria is recognized by Laveran's plasmodes contained in the red corpuscles, which disintegrate the latter and cause the formation of melanin. The blood-cell perishes here and there, and the melanin is set free, or is taken up by leucocytes. Leucocytosis occurs physiologically toward the end of digestion. It is found temporarily in acute pneumonia, especially in children, but is scarcely to be called characteristic of that disease. In pseudoleukæmia, the latter stages always show oligochromæmia, oligocythæmia, and a pretty high degree of leukocytosis, giving sometimes the aspect of leukæmic blood. Leukæmia is at first very difficult to diagnose; the behavior of the cells toward eosin may be an aid. In typical leukæmia there is an enormous increase of leucocytes, with diminution of red corpuscles, and great diminution of hæmoglobin. In the lienal form large-celled leucocytes predominate, in the lymphatic form the small-celled; while, if the bone-marrow participate, there are found extremely large leucocytes with large nuclei, numerous transitional forms between white and red corpuscles, and many cells with an affinity for eosin. According to the author, there is a form of persistent leukocytosis in children which, unlike leukæmia, often ends in recovery; it is characterized by diminution of red corpuscles and of hæmoglobin, pronounced leukocytosis, enormous splenic enlargement with but slight enlargement of the liver, and occasionally glandular swellings. It is distinguished from leukæmia by the almost total absence of eosin-staining cells, and by the contrast between the liver and spleen. It is distinguished from anæmia in rickets by the much higher degree of leukocytosis and its progression, also by the absence of rachitic signs.—*Prager Medicinische Wochenschrift.*

Microscopical Examination of Semen.—The amplification used should be not less than 400 or 500 diameters, or say a 2″ eye-piece and a $\frac{1}{8}$″ or $\frac{1}{10}$″ immersion objective, or a 1″ eye-piece and a $\frac{1}{4}$″ or $\frac{1}{5}$″ dry objective. It is true that the spermatozoids may be seen with much less amplification (a 2″ eye piece and a $\frac{1}{4}$″ or $\frac{1}{5}$″ objective showing them quite plainly), but the determination of the mere presence of the elements, even in great numbers, is not sufficient. We must in doubtful cases inform ourselves as to whether those that we find are possessed of their physiological properties, and especially the mobility necessary to penetrate the uterine cavity. De Sinéty states that in three cases examined by him (married men who had no children) the spermatozoids, though present in normal quantity, became immobile almost immediately after their ejaculation. Of course, this sort of an examination presupposes the freshness of the semen. The sooner that it can be placed under the instrument after ejaculation the better. A tentative course is necessary in most cases. The patient is given a couple of clean, ringed slips and cover-glasses, and is told that on the first opportunity he shall place a drop of semen on the slip and immediately apply the cover-glass and bring it to the examiner. The advantage of the ringed slip over the plain one is, that the semen may be kept fluid and normal therein for several hours, whereas the rapid drying

around the edges on the plain slip causes the cover glass to be drawn down very close to, and in fact almost into contact with, the surface of the latter, thus destroying all possibility of motion on the part of the spermatozoids. The slip should be examined at once. If the spermatozoids are found to be absent, no further examination is necessary. If they are found to be present, and normal as to quantity, it may be necessary to investigate further to determine the motility and vitality of the elements. In such cases circumstances must be the guide as to the method of obtaining a fresh specimen. It may be remarked here that when the semen is preserved in ice the movements of the spermatozoids continue much longer than when it is kept at normal temperature. It has been claimed (see "Proceedings of the American Society of Microscopists for 1886") that when put into a small tube, and the latter enclosed in a block of ice, the movements last for several days. The exceptional cases of aspermatism are those which may be called "physiological," in the sense that the absence is temporary and due to excessive coitus. In these cases the ejaculated matter comes entirely from the prostate (as shown by Feuerbringer in the *Zeitschrift für Klinische Medicin*. 1881, page 287), and is devoid not only of spermatozoids, but of the gelatinous hyaline matter secreted by the spermatic vesicles.—*St. Louis Medical and Surgical Journal.*

Epidemic Chorea.—An epidemic of chorea occurred some time ago in a German school. The particulars are given in a paper by Dr. Wichmann. Twenty-six children in all were affected, eighteen girls and eight boys, the girls being first affected, some more severely, some very slightly, while in all the boys the manifestations were slight. The patients continued to attend school, and there seems little doubt but that the contemplation of those who were affected with the disease had considerable influence in evoking the symptoms in the other children. This is confirmed by the fact that rapid improvement and subsequently complete restoration to a normal condition took place in those who were kept away from school.—*Deutsche Medicinische Wochenschrift.*

Treatment of Abscess of the Liver.—The following are the conclusions of an elaborate article, based upon the study of a large number of cases published by Dr. Jorge L. Rivas in the *Revista Médica de Chile*, November 11, 1890. 1. Whenever we suspect the presence of an abscess of the liver we ought at once to investigate by means of exploratory punctures which must, however, be strictly antiseptic in order to be safe. 2. It is not necessary, before an exploratory puncture be made, that there should be adhesions, but on the contrary this procedure is indicated when no adhesions exist as being an excellent means of exciting them. 3. These punctures are an excellent, and the only certain means of arriving at a diagnosis, and they are also often of assistance in prognosis and in determining upon the best method of treatment. 4. Aspiration by itself often suffices to bring about a cure, but in order to accomplish this it is very necessary to remove the pus as thoroughly as possible. All surgical treatment should begin with this procedure, except when there is absolutely no hope of obtaining a cure by this means, or when the general condition of the patient is so alarming as to admit of not the least delay. 5. When aspiration fails we must generally resort to antiseptic incision with a large straight bistoury. 6. The presence or absence of adhesions is of no importance in the matter of operating, for their presence is no indication, neither is their absence a contra-indication to the operation. 7. When the abscess is on the convex surface of the right lobe the incision should be made in the eighth intercostal space, and when it is situated on the concave surface the knife should enter about a finger's breadth below the free border of the ribs, and in both cases between the axillary and mammary lines. If the abscess is in the left lobe it should be opened in the presternal line about three-quarters of an inch below the ensiform cartilage; the incision should vary in length according to the necessities of the case from a little over an inch to five inches. 8. Alterative or antiseptic injections contribute to the successful result in cases of puncture, and are of prime necessity when a free opening has been made. In the first case the amount of the injected material ought never to exceed that of the pus removed. 9. Among the best of the alterative injections are Lugol's solution of iodine and chloride of zinc (two per cent.). 10. The preferable antiseptic injections are a two per cent. solution of carbolic acid and a three or four per cent. solution of boric acid. 11. The best treatment in most cases is the free opening of the abscess and thorough cleansing of the cavity, scraping the walls if necessary. 12. Drainage by simple tubes is preferable to that by Manson's syphonage, since the former permits of the changing of the dressings every eight days, and the injection of alterative solutions if desired. 13. Abscesses which have opened spontaneously into the pleural cavity, lung, intestine, etc., are to be treated in the same way by free opening under antiseptic precautions, the indication in such a case being of course more urgent than when the pus has not found exit.

Chloroform in Tracheotomy.—Dr. Geffrier has published a paper on chloroform in tracheotomy. The views of this author, which are based on a study of eighty-seven cases, may be summed up as follows: 1. Chloroform is of unquestionable service in tracheotomy on children. 2. Its use is not attended with any special danger in this operation, provided that attention be paid to certain contra-indications. 3. The following precautions ought to be taken: (*a*) Everything that might be required in the course of the operation should be placed close at hand. (*b*) The administrator, who ought to be experienced in the use of chloroform, should carefully watch the respiration, and, if it be required, excite the respiration by speaking to the patient or by irritating the skin. (*c*) If the state of the respiration become alarming, the inhalation of chloroform should be discontinued at once, and the operation be performed without delay. Extreme asphyxia and prostration from diphtheritic poisoning are regarded as absolute contra-indications. Marked cyanosis without, and slight cyanosis with impeded expiration are both regarded as contra-indications, though not so stringent as the conditions previously mentioned. Slight cyanosis without obstructed expiration and a very early age are not regarded as contra-indications. In the author's opinion, if the operation be not contra-indicated by the age of the infant, neither will the inhalation of chloroform be contra-indicated.—*Révue de Chirurgie.*

Chylothorax.—A case of this kind is reported by Dr. Neuenkirchen. Very few cases of chylothorax are on record, but all those hitherto observed have tended to prove that the disease is generally brought about by direct injury, and that the condition is rapidly fatal in its results. Chylous ascites is more common, and is generally produced by pressure upon some part of the thoracic duct causing rupture of it or some afferent lymphatic vessel which has become dilated. In the case recorded, that of a single lady, aged forty-five, the patient's previous history threw no light upon the causation of the disease, and the only symptom produced was that of dyspnœa, at first only on exertion, but afterward continuous when in absolute rest. This appeared in 1884, and fluid, described as milky, was at that time removed from the left pleura to the amount of about a litre, giving complete relief to the dyspnœa. The patient remained free from dyspnœa, or any other trouble, till December, 1888, when the breathing again became embarrassed, but no other symptoms showed themselves until six months later, when gradual loss of strength was complained of, and slight œdema of the feet was noticed. It was then found that the left side of the chest was nearly normal as regards its physical signs, but that fluid had collected in the right pleura. With this exception the most searching clinical examina-

tion failed to show any other abnormality. The right pleura was tapped with an ordinary trochar and siphon tube, and the lung expanded as the fluid was withdrawn; some degree of pain and collapse being caused, which soon subsided under stimulants. The fluid, as before, had a milky appearance, and, on standing, became covered with a layer of creamy consistence. Microscopically it consisted of molecular granules, scattered round cells, and a few blood-corpuscles, but no actual fat-cells. By chemical examination it was found to be alkaline, specific gravity 1.017, and to contain water, traces of casein, albumin, fat, sugar of milk, and salts. The exact quantitative proportions of each are given in detail. The patient was tapped several times, until it was found that reaccumulation seemed to be aided by the frequent tapping, and it was thought that the reduction of pressure within the pleura might be having the effect of drawing out the chylous fluid from its natural channels. It was therefore left to itself. The patient in the meantime is enjoying good health, the only new feature in the case being cessation of menses, which has been present since the first tapping in 1889.—*St. Petersburger Medicinische Wochenschrift.*

Personal Nomenclature of Disease.—Addison's Disease.—Disease of supra-renal capsules, with bronzing of skin.
Albert's Disease.—Fungous mycosis.
Aran-Duchêne's Disease.—Progressive muscle atrophy.
Astley Cooper's Hernia.—Crural hernia with multiple sac.
Argyll-Robertson's Symptom.—Absence of phosphenes.
Basedow's Disease.—Exophthalmic goitre.
Bazin's Disease.—Buccal psoriasis.
Bèchard's Disease.—Hernia passing through the saphenous orifice.
Bell's Paralysis.—Paralysis of the seventh pair.
Baudin's Law.—Antagonism of tuberculosis and impaludism.
Boyer's Cyst.—Subhyoid cyst.
Bright's Disease.—Albuminous nephritis.
Brown-Séquard's Syndroma. — Hemiparaplegia, with hemianæsthesia on the opposite side.
Cazenave's Lupus.—Erythematous lupus.
Charcot's Disease.—Arthropathy of the ataxic, and amyotrophic lateral sclerosis.
Cheyne-Stokes' Respiration.—Uræmic respiration.
Cloquet's Hernia.—Perineal hernia.
Colles' Law.—Non-infection of a mother by a syphilitic son.
Corrigan's Disease.—Aortic insufficiency.
Corvisart's Expression.—Asystolic expression of face.
Cruveilhier's Disease.—Simple ulcer of the stomach.
Donders' Glaucoma.—Simple atrophic glaucoma.
Dressler's Disease. Paroxysmal hæmoglobinuria.
Dubini's Disease.—Electrical chorea.
Duchenne's Disease.—Locomotor ataxy.
Duchenne's Paralysis.—Pseudo-hypertrophic paralysis.
Duhring's Disease.—Herpetiform dermatitis.
Dupuytren's Hydrocele.—Hydrocele with double sac.
Dupuytren's Disease.—Contraction of the palmar aponeurosis.
Erasmus Wilson's Disease.—General exfoliating dermatitis.
Eichstedt's Disease.—Pityriasis versicolor.
Erb's Disease.—Paralysis of the brachial plexus.
Erb-Charcot's Disease.—Spasmodic tabes dorsalis.
Fouchard's Disease.—Alveolo dental periostitis.
Friedereich's Disease.—Hereditary locomotor ataxy.
Gerier's Disease.—Paralytic vertigo.
Gibert's Pityriasis.—Pityriasis rosacea.
Gibbon's Hydrocele.—Hydrocele coexisting with hernia.
G. de la Tourette's Disease.—Motor incoördination.
Goyraud's Hernia.—Interstitial inguinal hernia.
Graves's Disease.—Exophthalmic goitre.
De Graefe's Sign.—Disassociation of the movements of the eyeball and the upper eyelid.
Guyon's Sign.—Ballottement of the kidney.
Harley's Disease.—Paroxysmal hæmoglobinuria.
Heberden's Rheumatism.—Rheumatism of the small joints with nodes.
Hebra's Disease.—Polymorphous erythema.
Hebra's Pityriasis.—Chronic red pityriasis.
Hebra's Prurigo.—True idiopathic purpura.
Henoch's Purpura.—Prurigo with abdominal symptoms.
Heselbach's Hernia.—Crural hernia with multiple sac.
Hippocrates's Expression.—The expression on the face of the dying.
Hodgkin's Disease.—Adenitis.
Hodgson's Disease.—Atheroma of the aorta.
Huguier's Disease.—Uterine fibro-myoma.
Hutchinson's Tooth.—Syphilitic tooth, semilunar notch of the edge.
Hutchinson's Triad.—Dental notching, interstitial keratitis, otitis (hereditary syphilis).
Jacob's Ulcer.—Cancroid ulcer.
Jacksonian Epilepsy.—Partial epilepsy.
Kaposi's Disease.—Xeroderma pigmentosa.
Kopp's Asthma.—Thymic asthma, spasm of the glottis.
Kronlein's Hernia.—Pro-peritoneal inguinal hernia.
Laennec's Cirrhosis.—Atrophic cirrhosis.
Landry's Disease.—Acute ascending paralysis.
Laugier's Hernia.—Hernia across Gimbernat's ligament.
Leber's Disease.—Inherited optic atrophy.
Levert's Law.—Marginal insertion of the cord in a short placenta.
Littre's Hernia.—Diverticular hernia.
Ludwig's Angina.—Infectious subhyoid phlegmon.
Malassez's Disease.—Cyst of the testicle.
Ménière's Disease.—Labyrinthine vertigo.
Millar's Asthma.—Stridulous laryngitis, spasm of glottis.
Morrand's Foot.—Foot with eight toes.
Morvan's Disease.—Analgesic paralysis of the extremities.
Paget's Disease.—Precancerous eczema of the nipple.
Paget's Disease.—Hypertrophic osteitis deformans.
Parrot's Disease.—Syphilitic pseudo-paralysis.
Parkinson's Disease.—Paralysis agitans.
Parry's Disease.—Exophthalmic goitre.
Pavy's Disease.—Intermittent albuminuria.
Petit's Hernia.—Lumbar hernia.
Pott's Aneurism.—Aneurism by anastomosis.
Pott's Fracture.—Fracture of the fibula, with dislocation of the ankle-joint.
Pott's Disease.—Vertebral osteitis.
Raynaud's Disease.—Symmetrical gangrene of the extremities.
Reclus's Disease.—Cystic disease of the mamma.
Richter's Hernia.—Parietal enterocele.
Rivolta's Disease.—Actinomycosis.
Romberg's Symptom.—Unsteadiness of gait of persons suffering from ataxy in the dark.
Rosenbach's Symptom.—Absence of abdominal reflex.
Salaam's Tic.—Convulsive salutation.
Soemich's Ulcer.—Infectious ulcer of the cornea.
Storck's Blennorrhœa.—Blennorrhœa of the respiratory passages.
Stokes's Law.—Paralysis of the subjacent muscles in inflammation of serous and mucous membranes.
Sydenham's Chorea.—Common chorea.
Thomson's Disease.—Muscular spasm at the commencement of voluntary movement.
Tornwald's Disease.—Inflammation of the pharyngeal gland of Luschka.
Velpeau's Hernia.—Crural hernia in front of the vessels.
Volkman's Deformity.—Congenital dislocation of the tibio-tarsal articulation.
Wardrop's Disease.—Malignant onychia.
Weil's Disease.—Abortive typhus with jaundice.
Werlhoff's Disease.—Hæmorrhagic purpura.
Westphal's Symptom.—Absence of knee reflex.
Willad's Lupus.—Tubercular lupus.
Winckel's Disease.—Cyanosis of newly born children.—*Journal de Médecine de Paris.*

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & Co., Nos. 56 and 58 Lafayette Place.

New York, March 14, 1891.

THE INFLUENCE OF TEMPERATURE UPON MORTALITY.

IT is well known that there is a fixed and definite relation between climate and disease, certain diseases being peculiar to certain climates. Thus in the colder regions we find most prevalent the diseases of the respiratory tract and kidneys, together with certain fevers, while in warm climes we note diseases of the digestive organs in addition to certain specific fevers distinct from those met with in the northern portions of the earth's surface. In the so-called temperate regions, where it is very hot for a portion of the year and very cold for another portion, we find diseases of both the kinds above mentioned, summer being marked by the prevalence of many of the diseases peculiar to the tropics, while in winter the diseases of the north prevail.

It is natural to conclude from the fact that diseases are grouped in this manner that one of the chief causes of their prevalence must be looked for in the thermal conditions of the different zones and of the different seasons in any particular zone. This has been shown graphically by Dr. A. Magelssen, of Christiania, in a recent work entitled "The Dependence of Disease upon the Weather."[1] In a series of charts depicting the temperature curve for different seasons in different countries, he shows that the death-rate for the respective regions rises and falls in direct relation to the temperature. Thus in northern countries, in the Scandinavian Peninsula for example, the mortality is greatest in the coldest part of the year, for the reason that respiratory diseases, to which the majority of deaths in these countries are due, are most frequent at this time, while in summer the death-rate is at its lowest, digestive diseases being comparatively uncommon there. In southern countries, on the other hand, the greatest mortality is from disorders of the digestive organs and from the fevers peculiar to tropical climes, consequently the death-rate reaches its highest point during the summer season. In southern regions the mortality curve coincides with that of the temperature, while in the north it rises and falls inversely to that of the temperature.

It is not only diseases of the digestive and respiratory organs, however, that are thus shown to be affected by the atmospheric changes, but the infectious diseases peculiar to northern and southern climates respectively appear to be influenced in like manner. Thus in the north the mortality from infectious diseases is greatest in winter, while in the south the opposite prevails, infectious diseases being both more frequent and more fatal during the hot season of the year.

As a result of his observations and studies, Dr. Magelsseu concludes that the real basis for the fluctuations of mortality in cold as well as in hot countries is to be found in the temperature changes. Under the influence of a higher or a lower temperature are developed in the inhabitants of the different regions the conditions favoring a greater or a less susceptibility to the action of the specific germs of disease.

[1] Om Sygdommenes Afhængighed af Veirliget. Med 10 lithograverede Tavler. Af A. Magelssen, Læge. Christiania, 1889.

THE DWINDLING POPULATION OF FRANCE.

FOR many years the public men of France have been concerned over the fact that their country is becoming gradually depopulated, and numerous are the means which have been proposed to ward off the evil. It has generally been assumed that the cause of the trouble lay in the growing custom of artificially preventing conception, so as to avoid the inconvenience and expense of a large family, and everything possible has been done to arrest the growth of this evil; among other things substantial money prizes having been offered to families of seven or more children.

This, however, according to a recent writer on the subject, is not the real cause of the decreasing population, which he says is to be found not so much in a lowered birth-rate as it is in an increased mortality. The fertility of the French has always, at least for many years past, compared unfavorably with that of other nations, the Germans, for example; but in spite of this, statistics, it is claimed, show that the population would not decrease were it not for the comparatively high death-rate from small-pox and typhoid fever. Brouardel states that variola kills annually, in France, 14,000 persons, as against 110 in Germany, nearly all the victims being under forty years of age; and typhoid fever is responsible for about 23,000 deaths annually, those dying being aged, mostly, from fifteen to twenty-five years.

The remedies indicated, if these statements are correct, would be compulsory vaccination and revaccination, and the interdiction of the use of polluted water. The Academy of Medicine has accepted this opinion, and by a vote adopted it as its own. Whatever share these diseases may have in reducing the population of France, it remains true, nevertheless, that the birth-rate in that country is steadily diminishing.

A NEW OPERATION FOR OLD TRAUMATIC DISLOCATIONS OF THE HIP.

AT a recent meeting of the Surgical Society of Paris, M. Nélaton described an operation which he had performed in a case of old traumatic dislocation of the hip, and which had given great relief to the patient. The dislocation was into the sciatic notch, and was eight months old, and all attempts made to reduce it in the usual way had failed utterly. Believing that failure to reduce by the

ordinary manœuvres was due to shortening of the gluteal and adductor muscles, as well as to the interposition of the anterior portion of the torn capsule between the head of the femur and the cotyloid cavity, which had become obliterated, M. Nélaton proceeded to operate in the following manner. He exposed and liberated on all sides the head of the femur by an incision made over its seat, removing with the bone forceps its spherical portion at the level of the neck. He then flexed the limb and detached the capsule from its posterior insertion, thus allowing its anterior portion to be cleared from the cotyloid cavity. The latter was now enlarged by a further clearing process to its normal depth and dimensions, and in this reconstituted cavity was placed the resected end of the femur. The tendency to subsequent shortening was nullified, the speaker believed, by the fact that, owing to the shortening of the bone by an inch and a half, the gluteal and adductor muscles acted at a disadvantage. The retention of the femur in its normal position was also aided materially by the scooping out of the cotyloid cavity. The after treatment of this case consisted in judiciously conducted movements of traction and flexion, and the result of the operation surpassed the surgeon's expectations.

M. Nélaton claimed, we believe, that this was the first time this operation had been done for the relief of traumatic dislocation of the hip; but it cannot strictly be called a new operation in any event, for it was practised some time ago by Heussner in a case of congenital dislocation, and has been recommended, if not executed, by other orthopedic surgeons for similar cases to the one of the German surgeon.

THE MANAGEMENT OF SYMPATHETIC OPHTHALMIA.

At a meeting of the Académie de Médecine in November last, M. Abadie professed to have discovered a mode of treatment in sympathetic ophthalmia which would render unnecessary the enucleation of the injured eye. His plan was to cauterize, by means of the galvano-cautery, the edges of the wound in the injured eye, and then inject into its substance a drop of a one per mil solution of perchloride of mercury. This caused the subsidence of all sympathetic morbid phenomena. Should a single injection not suffice, it might be repeated in a few days, but it was seldom necessary, he claimed, to give more than two or three injections in order to bring about a complete cure of any case, even those apparently the most grave.

The Acid of Butter has been thought to be mainly palmitic; but Mr. J. A. Wanklyn (*The Lancet*) asserts that this is not so. He has just discovered that the real acid is a different and peculiar one. It has the curious property of consolidating or gelatinizing alcohol. At temperatures below 5° C. it gelatinizes more than five times its weight of alcohol. Part of the alcohol is held mechanically by a sponge-like action, and part is retained in chemical combination. Palmitic acid possesses no such property; indeed, no other substance resembles the new acid in this particular.

News of the Week.

One Doctor Shoots Another.—Dr. George Baird, of Wheeling, W. Va., a member of the City Water Board and one of the most prominent physicians of the city, was shot and almost instantly killed March 7th, by Dr. George I. Garrison, ex-City Health Officer and a physician of high standing. Trouble between the two physicians dates back for a year. Before that time they were the closest friends, and when Dr. Garrison was chosen Health Officer, he being then a young physician, Dr. Baird performed the duties of the office while Dr. Garrison was absent at the college, and allowed the latter to draw the salary. About a year ago Dr. Garrison obtained a warrant for the arrest of Dr. Baird, charging him with a violation of law as to a death certificate, and this led up to a personal encounter.

Koch's Lymph at the Good Samaritan Hospital in Cincinnati.—S. P. Kramer, M.D., writes: "Experiments with the Koch fluid were begun January 14th. Nineteen cases were under observation. The usual reactions and attendant symptoms were observed. The report says, in reference to six cases of incipient pulmonary phthisis, that they were all improved. In one case the previously existing physical signs of infiltration 'had nearly disappeared.' The patient had gained five pounds, and left the hospital without cough and expectoration." Dr. Kramer maintains "that the remedy is a specific against tuberculosis, no one who has seen its action in a case of lupus will doubt. In so far as regards the science of medicine, the specific character of the remedy may be considered a settled fact. The cure of one case of lupus is sufficient evidence for this. Everything else, the determination of suitable cases, surgical aid, prevention of accidents, are details to be settled by the physician's art. Nor is this to be done in a day. We have but to remember our experience with mercury and iodine as specifics in lues. These remedies have been known to medicine for centuries, but it is only within the present generation that we have learned the proper use of them. Perhaps the benefit of Koch's remedy will be scarcely felt by the present generation."

The Alumni Association of Charity Hospital, New York, held its first anniversary dinner on the evening of March 10th at Clark's. Dr. D. Bryson Delavan, the president, was the efficient and tasteful toastmaster. Speeches were made by Drs E. L. Keyes, R. Guitteras (vice president), W. M. Polk, L. B. Bangs, Chas. Phelps, H. S. Norris, Clement Cleveland, Nelson H. Henry, H. M. Biggs, T. H. Allen, R. W. Taylor, and Geo F. Shrady.

A "Bill for an Act to Establish a State Board of Health and to Regulate the Practice of Medicine in the State of Nebraska, etc.," has been introduced into the Legislature.

Surgeon-General of Florida.—Dr. Henry Bacon, of Jacksonville, Florida, formerly an interne of Charity Hospital, Blackwell's Island, has been appointed by Governor Fleming, Surgeon-General of the State of Florida.

There are at present only eleven physicians who have discovered a better kind of inoculating fluid than that of Dr. Koch.

A Suit for Fees as a Medical Expert.—In a recent case in this State a physician brought suit to recover for his services as a medical expert on the contest of a will. He was the only witness on his own behalf, and produced letters and telegrams showing employment. These letters were, however, from lawyers acting not only for the defendant but for other persons, and, on the denial that they were acting for the person sued, the court decided against the physician. This judgment was appealed from, but has now been affirmed. The weight of evidence seemed to be against the physician, and the Appellate Court refused to disturb the verdict.

Dr. G. W. Broome succeeds Dr. Bransford Lewis in the editorship of the *Weekly Medical Review*.

Spain Rejects the Lymph.—A commission of six medical men, appointed to investigate the Koch method of treating consumptives, has reported in favor of the total suspension of that form of treatment, it haying been found, according to the committee's report, that not a single cure had been effected here by the use of the method.

Treatment of Phthisis by Transfusion.—A cablegram announces that four deaths have occurred within five days as a result of the transfusion of blood according to the method of Dr. Bernheim, and that the Bernheim treatment is more dangerous than treatment by the Koch method. Dr. Bernheim, however, maintains that he has had success in eighty cases of tuberculosis.

The Discoveries of Pasteur and Koch render necessary the coining of some new words. One of these is the adjective "immune," a good word and a useful one. We need, however, still more, a corresponding verb signifying "to make immune," and we note that "immunising" has already been adopted by some writers. This is rather clumsy. To "immunate" would correspond better with the allied terms "vaccine" and vaccinate.

The Late Dr. George R. Cutter. — The following resolution was passed by the Board of Surgeons and afterward by the Board of Directors of the New York Eye and Ear Infirmary at their last regular meeting: "In view of the death of Dr. George Rogers Cutter, which occurred on February 12th, after a brief illness, the Board of Surgeons of the New York Eye and Ear Infirmary hereby place on record their warm sense of his estimable qualities as a man and as a Physician. Beginning his connection with the institution as Resident Surgeon he was afterward placed upon the Staff and acquired the position of Surgeon in 1877. His career in the service of the institution covers a period of twenty-one years. He was noteworthy for fidelity, promptness, and zeal in his work. His industry was unflagging. Quick in thought and action, he was prompt to recognize the value of new methods and to profit by his own observation and experience. He was a scholarly man and never tired of acquainting himself with the most recent literature of his profession. Gifted in the art of acquiring languages, his reading was wide and his discernment good. The Surgeons feel that they have lost a wise, gifted, and true man, an esteemed colleague and an able surgeon. While they express their own regret they beg to tender their sincere condolence and sympathy to his wife and family."

Dr. M. H. Kerwin, the first physician in the Northwest to visit Berlin to secure and administer the Koch lymph, died at Milwaukee suddenly last week of peritonitis He was thirty-five years of age.

The Preaching and Practice of Orthoepy—Most persons in this country pronounce phthisis "tee-sis;" yet among eight lexicographical authorities quoted by Webster not one gives this pronunciation, the predominant one being "thi-sis." Only one authority (Smart) calls it "tisis," a pronunciation prevalent in Boston. Our esteemed leguminophagous colleagues cannot, therefore, put on any airs, other than those legitimately resulting from their strong east winds.

Recent Statistics of American Medical Colleges.—According to the last report of the Illinois State Board of Health, there are now 148 medical colleges of all kinds in the United States and Canada, there being 135 in this country and 13 in Canada, and of these, 129 require certain educational qualifications for matriculation. In 1882, such preliminary knowledge was required by only 22 colleges. The number of colleges that to day require attendance on three or more courses of lectures is 85, as compared with 22 that made such requirements in 1882. During the term from 1882 to 1891, the average duration of the lecture term has increased from an average of 23.5 weeks to 26.3 weeks. In 1882–83 there were 8 colleges that held terms of but sixteen weeks. The number that give such limited instruction at the present time is not given, but the number of colleges whose term is six months or more is 111.

College Commencements.—The University of Tennessee held its sixteenth annual commencement on February 24th, and graduated a class of one hundred and twenty-three doctors and dentists. May the former fill few and the latter many cavities!

A Suit for Malpractice Decided Against the Surgeon.—A case occurred recently in the Supreme Court at Syracuse which has excited much interest in medical circles. The accounts say that an action was brought by J. H. Link, as guardian, against Dr. J. W. Sheldon, for malpractice, laying damages at $10,000. It was alleged that Dr. Sheldon made a botch of reducing a fracture of the wrist of Mr. Link's son. Dr. Sheldon is a homœopathic physician of standing. The prosecution called numerous regular physicians to prove malpractice, and the case finally assumed the phase of a fight between the two schools. A great deal of expert testimony was given by prominent physicians. The taking of testimony lasted nearly all of the week. The court room was crowded, and sides were taken as much by the spectators as by the numerous physicians. The case was given to the jury this afternoon, and they returned a verdict for $4,000.

Dr. W. C. McFarland, of this city, died on Saturday, February 28th. He was a graduate of the College of Physicians and Surgeons, Class of 1867.

We note the announcement that Dr. Luther B. Grandy has been made one of the editorial staff of the *Atlanta Medical and Surgical Journal*, and we are further pleased to learn that Dr. Grandy is "one of the brainiest young men in the profession." We welcome Dr. Grandy to the ranks of journalism and are prepared to feel proud of his brain.

Social Evil Act.—The Legislature of Missouri has listened to the second reading of an act for the regulation of prostitution.

The Chicago Medical College is to have a new building costing $100,000.

The State Board of Health of Maine has introduced a bill into the Legislature to provide for the registration of vital statistics. The bill was prepared by the State Board of Health after an extended examination of the existing laws of other States, and an effort is now being made to secure its passage.

Medical Legislation in Missouri.—There is now pending in the Missouri Legislature a bill to compel all medical colleges in the State to adopt three courses of lectures as a condition for graduation. All of the medical colleges in the State, excepting one, are favorable to the bill.

The Illinois State Board of Health has decided that hereafter it will recognize no foreign diploma that does not confer upon its holder the right to practise medicine in the country in which it was granted.

Is the State Responsible for Lightning Strokes?—A bill has recently been introduced in the Massachusetts House of Representatives appropriating $300 to a man who was struck by lightning, as he was at work on the State camp-ground when struck. It seems that the State considers itself responsible for the accident.

Preliminary Programme of the Second Triennial Congress of American Physicians and Surgeons.—Tuesday, September 22d, 3 P.M. Discussion on "Conditions Underlying the Infection of Wounds, Including a Discussion of Disinfection with Reference to Treatment of Wounds; of the Relation of Bacteria to Suppuration; of the Resistance of Tissues to the Multiplication of Bacteria, and of the Effects of Antiseptic Agents on Wounds." *Referee*, Dr. William H. Welch, of Baltimore, Md.; *Co-Referee*, Dr. Roswell Park, of Buffalo, N. Y. The discussion will be adjourned if necessary until Friday afternoon. Wednesday, September 23d, 3 P.M. Discussion on "The Late Manifestations of Syphilis." *Referee*, Dr. Phineas S. Conner, of Cincinnati, O.; *Co Referee*, Dr. Abner Post, of Boston, Mass. At 8 P.M. The President's Address, to be followed by a reception. Thursday, September 24th, 3 P.M. Discussion on "Fibroid Processes (Chronic Interstitial Inflammation, Scleroses); Their Pathology and Etiology, with Special Reference to the Influence of Diathesis and Heredity." *Referee*, Dr. Alfred L. Loomis, of New York City; *Co-Referee*, Dr. William Osler, of Baltimore, Md. Friday, September 25th, 3 P.M. If necessary the discussion on the "Conditions Underlying the Infection of Wounds," etc., will be resumed.

Legislation to Reduce Doctor's Fees.—A bill has been introduced by a delegate to the House of Representatives of Missouri, to limit physicians' fees to the uniform rate of fifty cents for an office consultation, and one dollar for a visit. This is a most absurd proposition. We do not know whether the introducer of the bill is a lawyer, or a butcher, or a barber, but he might just as well, while he is about it, introduce a bill regulating the price of beef, of counsel fees, or of a shave.

A Bill to Regulate the Practice of Medicine in Michigan has been introduced into the Legislature. It appears to have been carefully drawn; it has the support of the State Society and apparently deserves to be made a law.

A Bill to Regulate the Practice of Medicine in Pennsylvania has been introduced into the Legislature and there seems to be some possibility of its passing. It provides for a Licensing Board composed of ten regulars, ten homœopaths, and ten eclectics. It is a most unjust and absurd scheme.

The Legislature of Wisconsin has before it a medical practice act, an act to establish a State School for idiots, and a bill merging the State Boards controlling the State and county insane asylums into one.

State Board of Medical Examiners.—In accordance with chapter 507 of the Laws of 1890 the Regents have appointed State Boards of Medical Examiners as follows: From the Medical Society of the State of New York: for three years from September 1, 1891, W. W. Potter, of Buffalo, William S. Ely, of Rochester, and Maurice J. Levi, of Albany; for two years from September 1, 1891, William C. Way, of Elmira, and George R. Fowler, of Brooklyn; for one year from September 1, 1891, J. P. Creveling, of Auburn, and Eugene Beach, of Gloversville. From the Homœopathic Medical Society of the State of New York: for three years from September 1, 1891, William S. Searle, of Brooklyn, Horace M. Paine, of Albany, and Asa S. Gosh, of Fredonia; for two years from September 1, 1891, John McE. Wetmore, of New York, and Jay W. Sheldon, of Syracuse; for one year from September 1, 1891, E. E. Snyder, of Binghamton, and A. R. Wright, of Buffalo.

Reviews and Notices of Books.

URINARY DISORDERS CONNECTED WITH THE BLADDER, PROSTATE, AND URETHRA. Lectures delivered at St. Peter's (in 1890) by REGINALD HARRISON, F.R.C.S. Surgeon to St. Peter's Hospital; Hunterian Professor of Pathology and Surgery at the Royal College of Surgeons of England, etc. Pp. 81. London: Baillière, Tindall & Cox.

DR. HARRISON is a master of his subject and through the British medical press has given much of value to the literature of medicine. His work is especially valuable because the well-trodden paths of knowledge are departed from for new and original ones. His new work on urinary disorders is no exception to the rule and the lectures on prostatic obstruction, hæmaturia, gleet, and the therapeutics of the bladder bristle with new points of practical usefulness.

A TREATISE ON THE DISEASES OF INFANCY AND CHILDHOOD. By J. LEWIS SMITH, M.D., Clinical Professor of Diseases of Children in Bellevue Hospital Medical College, New York, etc. Seventh edition, thoroughly revised. In one octavo volume of 881 pages, with 51 Illustrations. Philadelphia: Lea Brothers & Co. 1890.

THE new edition of Dr. Smith's well-known work on diseases of children compares favorably with other textbooks on the same subject. By the incorporation of the results of recent researches much new matter has been added to the volume. A special chapter on "Intubation," from the pen of Dr. O'Dwyer, finds suitable place in this volume. In its present shape the work will be appreciated by all those whose practice includes treatment of the numerous ailments of children.

WOOD'S MEDICAL AND SURGICAL MONOGRAPHS. Volume 8, Number 3. December, 1890. Contents: "Practical Guide to the Demonstration of Bacteria in Animal Tissues," by DR. H. KÜHNE, Wiesbaden; "On the Present Position of Antiseptic Surgery," by SIR JOSEPH LISTER, F.R.S.; "Cancer and Its Complications," by CHARLES EGERTON JENNINGS; "The Treatment of Epilepsy," by DR. CH. FÉRÉ; "Handbook of Dr. Koch's Treatment in Tubercular Disease," by DRS. EDWARD F. GRÜN and WALTER D. SEVERN. Pp. 308. Illustrated. Published monthly. $10 per year, single copies, $1. New York: William Wood & Co., 56 & 58 Lafayette Place.

THE wants of the profession are studied and supplied by "Wood's Monographs." They are always "up to the times." This is well illustrated by the December number, which contains among its five most excellent papers a handbook of Professor Koch's treatment of tubercular disease. What could be more opportune or more welcome? It is the first and probably the only treatise of the kind yet printed. The authors had *carte blanche* in the Berlin hospitals, and they present everything known about the new discovery in a clear, concise manner, and so plainly that any capable physician having the lymph could carry out the treatment. It is probably only a matter of a short time till the lymph will be in the hands of the general practitioner, and hence the work under review is invaluable. Dr. Kühne's paper on the demonstration of the tubercle bacillus in animal tissues will be especially welcome, because it goes into minute detail and gives methods that every doctor can carry out. Most essays on the subject presuppose entirely too much knowledge and skill in the reader. Dr. Joseph Lister's article on antisepsis will be read with interest. It leans decidedly toward asepsis. Exceedingly weak solutions are advocated, on the ground that they answer every purpose and require less drainage. Drainage-tubes, which can hardly be made aseptic, and which invariably leave sinuses behind are one of the blots on modern surgery. The remaining articles of the book, "Cancer and Its Complications," and "The Treatment of Epilepsy," are worthy of their distinguished authors, complete, scholarly, entertaining, and instructive. All in all the December Monograph is a most valuable addition to medical literature.

TRANSACTIONS OF THE AMERICAN ORTHOPEDIC ASSOCIATION. Vol. III. Philadelphia: Published by the Association. 1890.

THIS is a report of the proceedings of the fourth session of the Association, which was held in Philadelphia, Pa., on September 16, 17, and 18, 1890. An abstract of most of the papers here published in full appeared in these columns in October last in our special report of the meeting of the Association. Most of the papers show evidence of careful preparation by the authors, and together they form a valuable addition to the literature of orthopedic surgery. The volume is well printed and neatly bound, and the illustrations are above the average.

WOOD'S MEDICAL AND SURGICAL MONOGRAPHS FOR JANUARY. Contents: "Advances in Bacteriology," by R. KOCH, M.D.; "Formulary of New Remedies and New Medicinal Preparations," by H. BOCQUILLON-LIMOUSIN; "Anæsthetics, A Discussion," by DR. WILLIAM MACEWEN and others. Pp. 263. Price, per year, $10, single copies, $1. New York: William Wood & Co.

THE January number of Wood's popular series of monographs is unusually interesting and valuable. The great French chemist, Limousin, contributes a formulary of new remedies that is in itself worth many times the price of the book. About three hundred of the latest acquisitions to the materia medica are fully described, their therapeutical properties, uses, methods of preparation and dispensing, and doses being given. The discussion on anæsthetics is in touch with the times and the names of the authors. Drs. William Macewen, Joseph Coats, T. Brown Henderson, Robert Kirk, and Hartley of Leeds are sufficient vouchers for the excellence of the discussion. The third article is the one by Professor Koch, it being his famous paper read before the recent Berlin Congress, in which he gave the first news of his discovery of the curative lymph. The article is a comprehensive review of the progress in and present status of bacteriology.

TRANSACTIONS OF THE MEDICAL ASSOCIATION OF GEORGIA. Forty-first Annual Session. 1890. Pp. 222. Macon, Ga.: J. W. Burke & Co.

TEN papers by the leading physicians and surgeons of Georgia are contained in this very handsomely bound volume. "Aseptic *vs.* Antiseptic Surgery," "One Hundred and Seventy Cases of Railroad Surgery," "The Importance of Examination of Urine," and "The Female Urethra," are especially worthy of note.

THE WORK-HOUSE AND ITS MEDICAL OFFICER. By DR. ALFRED SHEEN, Senior Surgeon, Glamorgan and Monmouthshire Infirmary, Cardiff; Surgeon, Cardiff Workhouse and Hospital. Pp. 80. Bristol: John Wright & Co.

THIS is the second edition of a little work that gained great popularity in England. It details the proper management of a public institution, and is written by one who is authority on the subject. The medical officers of any institution can profit by a study of this useful book.

HEPATITIS AND HEPATIC ABSCESS: Their Etiology, Diagnosis, and Treatment. By G. HARRISON YOUNGE, Surgeon, English Army Medical Staff. Pp. 43. London: T. W. Danks & Co.

DR. YOUNGE has had unusual facilities for the study of liver disease during a long residence in India. His views as to etiology and treatment are original, tenable, and worthy of consideration.

ACCOUNT OF THE LIFE AND WORKS OF MAISTER PETER LOWE, THE FOUNDER OF THE FACULTY OF PHYSICIANS AND SURGEONS OF GLASGOW. By JAMES FINLAYSON, M.D. Pp. 83. Illustrated. Glasgow: James Maclehose & Sons.

NO handsomer piece of typographical art ever issued from the medical press. It is printed on heavy linen, edges uncut, beautifully illustrated with a photogravure portrait and a number of photo-lithographs, and enclosed in heavy paper lids covered with parchment printed in two colors. The reading matter is worthy of such fine dressing, for it is unique and valuable. The title indicates its character.

HAND-BOOK OF MATERIA MEDICA, PHARMACY, AND THERAPEUTICS, including the Physiological Action of Drugs, the Special Therapeutics of Disease, Official and Extemporaneous Pharmacy, and Minute Directions for Prescription Writing. By SAMUEL O. L. POTTER, A.M., M.D. Second edition. Revised and enlarged. 766 pp. Philadelphia: P. Blakiston, Son & Co. 1890.

THE present volume differs from other well-known works on Materia Medica in several respects. It is far less complete than some of them, but it embodies in concise form the more essential elements of practical therapy, so far as related to the use of drugs. The subject-matter is very conveniently arranged in alphabetical order. Part III. is a feature of the book, being devoted to special therapeutics. Under the heading of the principal diseases, alphabetically considered, the practitioner will find a brief reference to the drugs most commonly employed in their treatment, together with the particular indications governing their choice.

Altogether Dr. Potter's treatise will be found useful as a work of reference, especially by that large class of physicians who lack the time to look through the more bulky manuals.

Society Reports.

THE NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, February 19, 1891.

ALFRED L. LOOMIS, M.D., PRESIDENT IN THE CHAIR.

Operative Surgical Treatment for Aneurism of the First Two Portions of the Subclavian Artery.— DR. JOSEPH D. BRYANT read the paper (see p. 305).

Prefers Treatment by Pressure. — DR. JOHN A. WYETH thought the most enthusiastic operative surgeon would admit that surgical interference with aneurism at the root of the neck, and especially, as bearing on the paper, of the first and second portions of the subclavian artery was bloody and fatal in the extreme. As the reader of the paper had shown, every case but one of deligation of the innominate had ended fatally as a direct result of the operation. The single exception occurred in the preaseptic days.

All cases in which the first portion of the subclavian had been tied had died, all but one of hemorrhage. He also mentioned the fact that aneurism of the subclavian almost invariably occurred upon the right side. With such results from proximal ligature, he turned to distal ligature, but here found the results almost equally unsatisfactory, almost as fatal. Statistics were here given. With such a picture before him he would resort to surgical interference only as a last measure. The difference in the sum of life between operative and non-operative interference had been forty-seven years in favor of the latter.

By non-operative interference he meant pressure, which had been advocated by Mr. Holmes. The pressure was made by means of a ball upon the tumor at the root of the neck. Five cases were on record treated in this manner, of which four were cured, one died. To this number Dr. Wyeth could add two more, one treated by himself, the other seen by him and treated by Dr. James P. Tuttle. He employed in his case a rubber ball of the kind children played with, forming an elastic cup over the tumor when pressure was exerted. The patient was kept at rest in dorsal decubitus, and was discharged, cured, at the end of two months. Dr. Tuttle's case was also cured, it now being twelve months since treatment had been discontinued. He therefore thought that in all cases in which the aneurismal tumor projected above the clavicle one should try pressure in preference to operative interference.

Objections to Pressure Treatment.—DR. L. A. STIMSON referred to the difficulty of distinguishing between aneurism of the first and second portions of the subclavian and other aneurismal tumors in the neck. If the aorta were involved, pressure could not effect a cure, and even in cases strictly within discussion he thought the results of pressure treatment would perhaps be less favorable in the future than in the past. He thought the results of distal ligature for aneurism of the innominate, and therefore of the subclavian, were not so bad. He had had one case live twenty-one months, then death took place from phthisis. The aneurism was found completely filled with a firm laminated clot. As to MacEwen's method of introducing a needle and scratching the wall of the aneurism, he would be a little afraid of it. Doubtless the action was considerably like that of introducing a number of pins or needles, a method by which some surgeons had claimed very good results.

Diagnosis and Medical Treatment.—DR. E. G. JANEWAY sent a letter briefly discussing this subject. He said it was rare for him to be called upon to make a diagnosis of aneurism of the first and second portions of the subclavian. The diseases which it had simulated had been, as far as his experience had gone, aneurism of the innominate, tumor, especially lympho-sarcoma or goitre. The rule that a double murmur meant of necessity aneurism had some limitation, as he had recognized double murmur connected with goitre.

As to treatment, it usually fell to the surgeon. The success of medical treatment of any aneurism was not very great. Rest, a modified diet, medicines intended to quiet the heart's action and promote coagulation in the sac. Morphine relieved pain and quieted the heart, aconite might be useful, digitalis was liable to do harm. The continued administration of iodide of potassium in considerable doses seemed to promote coagulation in the sac. Absolute rest for months should be a part of all medical treatment. The bowels were apt, under rest and opium, to become constipated and cause straining, which should be guarded against.

Diagnosis Proximative.—DR. T. M. MARKOE thought the diagnosis of aneurism of the first and second portions of the subclavian could only be proximative, not positive. The great danger in operative treatment had been from hemorrhage, nearly always from the distal side of the ligature, due to collateral circulation. If this could be obviated it would be a long stride toward the solution of the surgical treatment. He had made all the dissections for Dr. Rogers when he tied the left subclavian about an inch and a half from its origin in the aorta for aneurism. Fatal hemorrhage took place from the distal side, the vertebral artery having evidently been the cause. He was present also at an operation where it was intended to ligate the innominate, and the operation was abandoned on account of the presence of an atheromatous patch which would have fallen within the ligature, yet in Dr. Rogers's case such a patch was present on one side of the vessel where ligated and had not interfered at all with healing and closure of the vessel on that, the proximal, side. He thought he would also tie the vertebral artery to obviate the fatal result taking place through the collateral circulation.

To Avoid Secondary Hemorrhage.—Another method which bid fair to overcome the danger of secondary hemorrhage was that of constricting the artery without entirely obliterating its canal, allowing this to take place by a process of proliferation of tissue and the formation of clot. Thus while the artery was occluded, it would not be separated so distinctly into two parts as was done by tight ligation, while objections had been offered to this method, the chief of which was that it did not make absolutely certain occlusion of the artery, yet in experiments on animals Senn had found it usually successful and in none had there been secondary hemorrhage.

DR. W. T. BULL, chairman of the Section on Surgery, under whose auspices the discussion took place, said he was in accord with the conclusions drawn by Dr. Bryant.

The discussion was closed by the author, who said that while he was aware ligation of the vertebral was not fraught with absolute danger, yet he thought it should be undertaken with greater precautions in cases like the one related.

Suture of the Bladder.—From a careful study of this subject Dr. Delefosse has arrived at the following conclusions: 1. Vesical suture should not be employed in at least two-thirds of the cases of hypogastric section, on account either of the object of the operation itself, or of the condition of the vesical walls, or of the interior of the bladder. 2. It is only absolutely indicated when there is an intra peritoneal wound of the bladder wall. When a wound of the bladder is extra-peritoneal, vesical suture should be employed when the bladder and kidneys are healthy and the urine is normal. 3. In the great majority of cases of hypogastric section, in which the use of the suture has succeeded, a partial suturing or none at all, with the employment of siphon-drainage, would give equally good results.—*Annales des Maladies Génito-urinales.*

THE PRACTITIONERS' SOCIETY OF NEW YORK.

Stated Meeting, January 2, 1891.

GEORGE L. PEABODY, M.D., PRESIDENT, IN THE CHAIR.

Hysteria (?) in a Man.—DR. ANDREW H. SMITH presented a patient with the following history: Isaac Nussbaum, aged thirty two, single, newsdealer, Germany. Admitted, December 3, 1890. His family history is negative. He has not had rheumatism or syphilis. He is a moderate beer drinker. His health previous to July, 1889, had been perfect. From July to October, 1889, he suffered from a severe attack of typhoid fever. On recovering from this he was troubled with attacks of dizziness and the same symptoms he now has, which have recurred at intervals since then, although he has never been entirely free from them. They are dizziness, stiffness of the left side, headache principally on the left side, ringing in the head, photophobia, pain in the back of the neck, insomnia. Three weeks ago, while undergoing severe exertion, he lost consciousness for a short time, and when he recovered the symptoms were more severe and have continued so till the present time.

Physical Examination.—He is muscular, well nourished, and not anæmic. His lungs appear normal. Breathing is rapid and shallow owing to pain on deep inspiration. Heart and other organs appear normal. There is hyperæsthesia of the entire left side—around the left nipple seems to be the point of maximum intensity. There is photophobia. His head is drawn to the right side. His patellar reflexes are both exaggerated, the left more than the right. Superficial reflexes exaggerated. Ankle clonus is present on the left side. Urine, negative. No temperature.

December 6th. This morning his entire left side became suddenly rigid and this is present still, though less marked than at first. He has buzzing and ringing noises in his head. Last night he could not pass his urine and had to be catheterized.

December 7th. Had another attack of tonic contractions of the muscles of the left side this morning. The extensor muscles were more rigid than the flexors, so that both arm and leg were strongly extended.

Ophthalmoscopic examination showed the fundus and optic disk to be normal. He has had potassium iodide, gr. xv., t.i.d., and bichloride of mercury, gr. $\frac{1}{16}$, t.i.d., since his admission. The symptoms are less marked now than they were at first, but they still persist.

THE PRESIDENT asked Dr. Smith whether he had discarded the idea of hysteria in the male.

DR. SMITH replied that he had thought of hysteria and of malingering, but the patient was willing to submit to any test. He had made no objection to the use of the Paquelin cautery. He claimed to have lost smell and taste, but these senses had not been put to any severe test, nor had they examined for limitation of the visual fields. Examination had not been made under ether. He could not say whether the muscular rigidity passed off during sleep. In fact the patient slept very little except under opiates.

DR. DANA remarked that there was no ataxia, no tremor, no inco-ordination. Being asked for a diagnosis, Dr. Dana said he would want to make a more careful examination of the patient before coming to any positive conclusion. It was his impression, however, that it was a case of tumor of the brain. He thought hysteria could be excluded by the mental condition, the hebitude and excessive pain, and the absence apparently of any of the anesthesiæ of hysteria. Hysterical paralysis was very rarely so spastic in character. He thought the diagnosis lay between tumor of the brain and, perhaps, pachymeningitis of the right side. If a tumor, it probably lay pretty deeply and well anteriorly, yet extending far enough back to involve the leg, arm, and shoulder centres, very little of the face centre. It would seem that it must lie rather deeply, because there was so little motor disturbance in the way of spasms and epileptiform attacks. He concluded by saying, however, that he would want to make a much more careful study of the patient before pronouncing on the diagnosis. Being asked by the President whether a tumor situated as he had suggested would account for the pain, Dr. Dana said it would not, and that fact threw doubt on the diagnosis.

DR. FRANCIS DELAFIELD said that, judging by what he had heard and seen of the case, he would suppose it was one of hysteria. A positive diagnosis, however, would not be justified without further observation of the patient.

A Case of Malingering.—DR. GEORGE F. SHRADY said he thought it was a case of malingering. It was sometimes very difficult to make out this condition. Dr. Smith's remark with reference to the rigidity disappearing or not during sleep reminded him of the case of a soldier in the Central Park Hospital during the war. He had assumed a bent position, which he maintained continuously four weeks. A guard was placed over him to watch him during sleep, yet always the moment he was touched the rigidity was there. Finally, when going up to the hospital one day in a car the conductor informed Dr. Shrady that this man had been seen in a partially intoxicated state, when he held on to the strap as any other man would do. On arriving at the hospital Dr. Shrady found him still in his bent position. He ordered him, after the fashion of the day, to report for duty. He was more crooked than ever. He was then placed under an anæsthetic, straightened out and was entirely cured. Previously they had watched diligently for relaxation of the muscles, but were unable to detect it. He had exaggerated sensations, like the man presented by Dr. Smith, whenever he was touched.

DR. W. H. DRAPER did not wish to commit himself to an opinion without further examination of the case, but he thought it looked like one of hysteria.

DR. R. F. WEIR was reminded by Dr. Shrady's case of a man whom they had in a large hospital during the war who claimed to be aphonic, and was put to nursing. They suspected he might be shamming and watched him very carefully, but he passed through all the tests and the close watching without being detected. His papers of discharge were sent on, and had come back to Dr. Weir, who was to have given them to him the next day, but that very night a patient in one of the wards was seized with sudden hemorrhage, and the nurse came running over, crying out, "Doctor, so and so is bleeding!" It so happened that Dr. P——, whom the nurse supposed was on duty that night, could not be there, and his place had been taken by Dr. S——, who recognized the voice of this man. Consequently he was sent to the front instead of being discharged from the service.

DR. A. H. SMITH remarked, as bearing on the question of this being an assumed condition, that there was no apparent reason for it; the patient did not desire to be kept in bed, he had apparently made no effort to be retained in the hospital; he had tried to be of some service about the wards, and when it was proposed to burn his back with the Paquelin cautery he said he did not object if it would do him any good, and he had not opposed its repetition. His demeanor did not seem that of a malingerer, although they had suspected he was one. Hysteria had also been thought of, but as he had watched the case he had been inclined to the opinion that there was an intra-cranial tumor.

DR. DANA added that he thought it would be impossible for the man to simulate ankle clonus, which had been mentioned in the history; and with regard to all sorts of exaggerated reflexes being present in hysteria, suggested by one of the speakers, he said he thought that in hysteria in the male with paraplegic symptoms, the rule was that the reflexes were diminished, and when increased there was almost always a tremor. This man had no tremor at all; his hand was perfectly still.

This was very unusual with a hemiplegic hysteria. His mental condition, his attitude, and whole physiognomy were entirely different from that in cases of hysteria of the male which he had seen, and he had seen a good many cases at one of the city hospitals.

On examining for ankle clonus Dr. Dana could not find any evidence of it this evening, and Dr. Draper remarked that the reflexes did not seem to him much exaggerated. Dr. Dana added that if one found very decided limitations of the visual field, it would be strong evidence of hysteria. [The patient had then gone and could not be examined for this symptom.]

Abscesses Simulating Appendicitis from Rupture or Ulceration of the Gall-bladder.—Dr. F. Weir presented the details of three cases, two of his own and one by permission of Dr. Markoe, of perforation by ulceration of the gall-bladder with subsequent formation of abscess in the neighborhood of the right iliac fossa, thus simulating a perityphlitic abscess. In two of the cases the autopsy showed beside the lesion in the gall-bladder, due in both instances to retained gall-stones, that the passage of the effused bile downward had occasioned only a circumscribed peritonitis, and in one of the cases the matter, released in all the cases by surgical procedures, showed no trace of biliary coloring. The infectious influence of effused bile was also considered at length, and many cases were cited to show that in empyemic processes of the gall-bladder it was more severe than when the latter was merely distended by obstruction of the cystic duct—wounds or traumatic rupture of the gall-bladder being the least infectious from the escaping bile. The method of treatment in conditions where the lesion is recognized and the patient's strength admits of extended surgical treatment was detailed, and was corroborative of Courvoisier's recent deductions. Several other personal cases simulating appendical abscesses, but of a different origin, such as sarcoma with suppuration in right iliac fossa or near umbilicus, were given, and one particularly, of phlegmon of the broad ligament, where the initial symptoms strongly pointed to a perforation of the appendix, was commented on at length.

The Frequency of Perforation and Peritonitis from Gall-stones in Old Persons.—Dr. Herman M. Biggs said he had seen a number of cases post-mortem of general peritonitis following ulceration and perforation of the gall-bladder by gall-stones, and he had been impressed by the fact that nearly every case had occurred in old persons. These autopsies had not been at Bellevue, but at the almshouse on Blackwell's Island. The cases numbered four or five. The gall-bladder had been perforated, and one or more stones were found in the peritoneal cavity. Whether this peculiar experience was due simply to the greater frequency of gall-stones in elderly people than in others, he was unable to say.

Large Gall-stones entering the Duodenum by Ulceration.—Dr. W. H. Draper recalled two cases in which large gall-stones had found their way into the duodenum by ulceration. One was that of Dr. B——, well known to most present. There were no symptoms in this case until the stone, which was a large one, had dropped into the duodenum and given rise at once to symptoms of obstruction. The patient, having been perfectly well, was suddenly taken with severe pain and vomiting. Fecal vomiting came on within two days. Several surgeons saw him. He lived nine days. When the autopsy was made, the stone was found to have progressed downward about eighteen feet, and lay in the ileum.

He had seen a very similar case about three years ago with Dr. Yale. In this case the woman had had one or two attacks of biliary colic. Dr. Draper ventured to make the diagnosis of a large stone which had engaged in the intestine. She had symptoms of obstruction. The family were opposed to an operation until she had entered a state of collapse. A stone was found very similar in shape and size to that in Dr. B—— 's case, but not so far down. She had died, too, after a shorter illness—about five days. In each case a large ulcerated opening existed between the gall-bladder and duodenum.

Dr. Weir remarked that, as he remembered the case of Dr. B——, the interesting fact was revealed at the autopsy that had the abdomen been opened during life, the stone could have been readily found. Owing to the thickness of the walls, however, it could not be felt until the belly had been opened.

The President said he had never seen any cases at autopsy like those referred to by Dr. Biggs. Regarding Dr. B——'s case, referred to by Dr. Draper, he was reminded that a few years ago a doctor in the city showed him a stone of about the same size, which had caused the death of his father in the country. The patient was under the care of a country practitioner who did not suggest surgical interference, although, from what the son said, the symptoms were those of intestinal obstruction, and a stone could be felt in the neighborhood of the umbilicus. All that could be done in the way of an autopsy was to make an incision over this tumor, which was found to be a stone obstructing the intestine. It could not, owing to its size, have reached the intestine without making an artificial opening.

Dr. Weir inquired of Dr. Biggs whether, in the cases on which he had made autopsies, there was any circumscription of the effused material in the right iliac region, simulating perityphilitis.

Dr. Biggs replied no, that the peritonitis was general. He added that, although the patients had been inmates of the almshouse prior to the fatal illness, there had been no history of hepatic colic. In the last case, which occurred a month or six weeks ago, the patient was admitted to the hospital for what was supposed to be and what proved to be peritonitis. The autopsy showed the gall-bladder well filled with gall stones and an opening of considerable size over the fundus through which a large stone had escaped into the abdominal cavity. He had seen a number of cases like those cited by Dr. Draper, in which large stones had made a passage into the intestine, but he had seen none except those on the island in which the perforation had taken place into the peritoneal cavity. It had occurred to him as a possible explanation that reactive inflammation in old people was less marked.

When to Operate in Hepatic Colic.—Dr. F. P. Kinnicutt said that, *apropos* of Dr. Weir's paper, there was a point which he had raised in citing a case at the last meeting of the Society. The case was one of repeated attacks of hepatic colic. Most careful watching failed to show stones in the passages, there was no jaundice, no recognized distention of the gall-bladder until the last attack. The man died in one of these attacks, death being caused by a large cerebral hemorrhage. The hepatic colic was found to have been due to a large gall-stone firmly impacted in the neck of the gall-bladder. There was no ulceration; there was no obstruction of the common duct. The stone was so large that it would not pass from the ileum into the cæcum. If the patient had lived longer it seemed the final end must have been one of three things: ulceration into the duodenum and intestinal obstruction; ulceration and escape into the peritoneal cavity with fatal peritonitis; or atrophy and drying up of the walls of the gall-bladder surrounding the stone. He was rather disposed to advise an operation in similar cases.

Atrophy of the Gall-bladder about Stones.—Dr. Andrew H. Smith related a case, *apropos* of Dr. Biggs's remarks, upon atrophy of the gall-bladder about a stone. The patient was a woman in her eighty-first year, whom he first saw the past summer, when she was complaining of a good deal of abdominal pain, considerable abdominal distention, anorexia, nausea. On palpation he felt a tumor in the region of the gall-bladder as large as one's fist, very hard and very sensitive to the touch. He was absent on a trip to Europe six weeks, and when he came back learned that the patient had been pretty comforta-

ble during that time. Fever, which had never been very great, subsided, and the pain disappeared, but the tumor was still present, though somewhat smaller and not so tender on pressure. The patient told him that she had had repeated attacks of that kind during the past four or five years. He could make nothing out of the case further than to surmise that the gall-bladder was full of stones, and had atrophied and contracted down upon them, and now and then some of its structures underwent renewed inflammation.

Relation between Hepatic Colic and Malaria.—Dr. Joseph D. Bryant said the case which Dr. Kinnicutt had related reminded him forcibly of one with which he had been familiar the past eight years. The patient was a man in middle life, in perfect health as far as he knew except for certain attacks. These started about ten years ago in what seemed to be an attack of ordinary hepatic colic, although it was fair to say that he had suffered from malarial attacks prior to that time. Dr. Bryant saw him in one of the attacks for the first time about eight years ago. He was unable, however, after most careful search, to find any gall-stones in the fecal passages. For three years, subsequently, he had no further attacks. In the fall of 1888 they began again, and finally came on every day. An interesting fact was that they came in the afternoon. Dr. Janeway saw the patient with him on two or three occasions, and they came to the conclusion that the attacks were manifestations of malaria. The two facts on which this opinion was based were, 1, The man had no attacks when out of town; 2, No matter how severe the attacks might be, ten to fifteen minims of Magendie's solution relieved them. But the question of interest was whether malaria was really the cause of the trouble, or whether stones were present which caused paroxysms only when a malarial influence arose. Dr. Bryant had gone so far as to suggest an exploratory incision, and would have insisted on it had not the attacks ceased when the man went out of town. There had now been no attacks for three or four months.

Would Wait.—Dr. Weir said Dr. Kinnicutt's question raised the point whether we should perform an operation which was attended by some risk for a condition which was not known before operating to be dangerous. He would answer by saying that if the attacks rendered life a burden or unfitted the man for active duties, he would feel justified in resorting to a procedure which all must admit was attended by some risk. If life had not become a burden, the stone might remain in the gall-bladder a considerable length of time, or it might ulcerate happily into the intestine.

Dr. Kinnicut remarked that it might be too large to pass through the intestine.

Dr. Weir said it would be easier to tackle it when the trouble actually arrived. Besides, one did not know for a certainty that the stone was in the gall-bladder or cystic duct, although the symptoms might point that way. He once saw a case with Dr. Delafield and Dr. Partridge which looked very much as if it might be one of distended gall-bladder from stones. There was a history of repeated attacks, and he thought it not unlikely an operation would have to be done. Dr. Delafield, however, thought the trouble might be of catarrhal origin and advised them to wait. They waited, and the patient recovered. Again, Dr. Draper saw a case with him which he thought pointed very strongly toward operative interference. Dr. Draper, however, thought it right to try medical treatment a little longer, and between this and their handling the woman got better, and in forty-eight hours had recovered completely. There had been no trouble since. It might be that their examination had forced the gall-stone on.

Dr. Kinnicut asked Dr. Weir whether there was jaundice, and whether the stone was not in the common duct, to which Dr. Weir replied in the affirmative. Dr. Kinnicut went on to say that there was no evidence of obstruction in the common duct in his case; there was the strongest evidence of serious obstruction in the neck of the gall-bladder or in the cystic duct, and no evidence of a catarrhal condition.

Why should Biliary Calculi cause Inflammation in one Case and not in Another?—Dr. Delafield thought that which troubled the diagnostician was, why sometimes calculi stayed in the gall-bladder without causing inflammation while at other times they did cause inflammation. If they did not give rise to inflammation the worst which they could do would be to cause pain. But why in some cases they should cause inflammation and not in others was the great gap in our knowledge, and made all the difference with regard to the advisability of an operation. He knew a man who had been having his attacks of pain every year regularly for at least ten years, sometimes with jaundice, more frequently without. No calculi had ever been found in the stools, the gall-bladder had never been enlarged to any appreciable extent, and when the man had no pain he was perfectly well. It was, therefore, simply a question with him whether to endure the attacks of pain a short time or risk an operation. There was another point to be considered in discussing the advisability of an operation. Where calculi could not be found in the fæces, and there was absence of jaundice and tumor, he knew of nothing more difficult than to distinguish between attacks of so called biliary colic and intestinal colic. He doubted whether it was possible to differentiate between them in many cases with certainty.

Correspondence.

OUR BERLIN LETTER.

THE PRESENT ASPECT OF THE KOCH TREATMENT IN BERLIN —PROFESSOR FRAENKEL TAKES ISSUE WITH VIRCHOW AS TO CAUSES OF DEATH FROM TUBERCULIN — PROFESSOR LIEBREICH'S NEW REMEDY.

Berlin, February 19, 1891.

At the meeting of the Berlin Medical Society of February 18th, Professor B. Fraenkel delivered an address closing the discussion on his original paper concerning the Koch treatment, read in December last. "You have heard," said he, "the extended discussion which has been carried on for the last two months over my paper; reports of cases both favorable and unfavorable have been read to you; you have seen the demonstrations of pathological specimens by our President, Professor Virchow, and in speaking a few closing words at this time I can only touch upon a few of the more important points concerned in the unfavorable cases. First, then, the dosage cannot be taken as the only criterion in fatal cases. We cannot say that death has resulted in all cases from overdosing, for there have been deaths after only two or three injections had been given, of one milligramme each. These cases, however, are exceptions, and in the majority of fatal cases there has been a history of large doses with frequent increases. Second, you have been shown a pathological preparation in which was found caseous pneumonia, in the lungs of a patient who had received but a few injections. I would call your attention to the fact that a catarrhal pneumonia was not present in this case, and since caseous pneumonia is an affection requiring a longer time and some degree of chronicity for its development, we cannot regard it as possible that under the action of the Koch lymph, or as it is now officially known, tuberculin, such a caseous pneumonia should develop in a few days. If the tuberculin cause pneumonia, it would be of the catarrhal and not of the caseous variety, and we therefore consider that in the case brought under your observation by Professor Virchow, the pneumonia co-existed with the tubercular process and was not dependent upon five days' treatment with tuberculin. When we reflect how very frequently chronic tuberculosis and caseous pneumonia are found together at post-mortem examinations we are further confirmed in this opinion. Third, and most important, we have to consider the diffuse miliary tuberculosis exhibited

in a case which had been treated by tuberculin. Here the same argument applies with even greater force. Among the different forms of tuberculosis, the miliary has been regarded as the most severe. In the case mentioned the tuberculin had been given but twice. If the lymph had the power to cause tuberculosis we should certainly expect a mild form, instead of the most severe one known, after any such short course of treatment, and moreover, we must again regard it as physically impossible for such an extended form of the disease to follow the use of the lymph in any such short time as two days. Under the action of the tuberculin all tubercular tissue goes through a process of ulceration and necrosis and we can well conceive that if a diffuse miliary tuberculosis exist in the body there may be a very high grade of reaction following the use of tuberculin, but if such a patient die it cannot be said that the lymph has caused the miliary tuberculosis. It would be more accurate to say that the miliary tuberculosis was latent and that the patient died, not because he received the lymph, but because the disease had so underminded his strength that he could not rally under treatment. If tuberculin had the power to cause this form of the disease, it would be a very common thing at the present time, while the fact of the matter is, that many of us who are using the lymph constantly have not seen a single case of such an unfortunate complication.

"If I were asked what I think of the Koch treatment to-day I should answer, the more I investigate it the more I am convinced that it is what Koch claimed it to be, a successful method for treating tuberculosis in its incipient stages. We all know that it has been given to advanced cases, and we must admit that there have been some bad results. We must admit, too, that it may call into action a latent miliary tuberculosis. I ask you, however, to recall the history of the treatment of tuberculosis in your own practice up to the time of the Koch discovery. Have you had any satisfactory treatment? Have your patients recovered? On the one hand, we have Koch's treatment, with some dangers, it is true, but with the history of an enormous number of cases in which very marked improvement has taken place, and some in which apparently a cure has been performed. On the other hand, you have a vast array of remedies which have been tried for the treatment of this disease, and which have proved of no considerable value, either for improvement or cure. I therefore do not hesitate to pronounce Koch's treatment by far the most promising of any yet known for the treatment of tuberculosis in its incipient stages. For *all* cases of tuberculosis it is certainly not to be used, and we must with great care in accurate diagnosis select those cases which can truly be called 'incipient,' before using this remedy.

"Had I closed my address one week ago, I should have stopped here. Within the last few days, however, Professor Liebreich has sent me a new remedy, which when used subcutaneously for the treatment of tuberculosis of the larynx produces no fever, and seems to work in a most marvellous manner upon the disease. We have six cases under our observation which are receiving this new remedy, and at the next meeting of the Medical Society, Professor Liebreich will address you upon the subject."

Great interest was manifested in Professor Fraenkel's speech, and at its close repeated calls were made for Liebreich. For some reason the latter preferred to postpone any address upon the subject until the following week. The new remedy is said to differ from the Koch lymph in not being made from bacilli, nor in any way dependent upon them. When injected it produces no fever, but the local changes in tubercular tissue are as marked as those from tuberculin. It can be used either with or following the Koch treatment, or entirely independently of it. It is thought it will possess the good qualities of tuberculin without its dangers.

Professor Virchow demonstrated the larynx and other organs of a patient who had been treated with tuberculin. On the left vocal cord was a small, fresh ulcer, and scattered through the intestinal canal were several ulcers, some fresh, some partly, and some entirely healed.

The strong reaction against the use of Koch's lymph which set in some weeks ago seems to be losing its force, and renewed confidence is felt in the remedy under the influence of reports from Berlin and provincial clinics where the method has had a more extended trial. Much greater care is used than at first in selecting cases for treatment. It is refused to all who show a pronounced hectic fever, or who have the physical signs of extended tubercular infiltration in the lungs. The Koch syringe has been proven to be inaccurate, and is gradually being replaced by improved models. The Mayer syringe may be mentioned as one of the latest improvements; it is divided on the glass cylinder, like the Koch instrument, is more easily cleaned and kept aseptic, and is absolutely accurate. The disk is of asbestos, and can be expanded to fill the cylinder air-tight by turning the piston. As a perfect syringe for hypodermic use it leaves nothing to be desired. Under the influence of improved instruments, greater accuracy in dosage, and stricter limiting of cases for treatment, there has been a great improvement in the statistics, and greater confidence in the remedy is felt on all sides.

OUR LONDON LETTER.

(From our Special Correspondent.)

THE HUNTERIAN ORATION AT THE COLLEGE OF SURGEONS—MR. TREVES AS A CONSERVATIVE IN SURGERY —DISCUSSION ON APPENDICITIS AT THE CLINICAL SOCIETY—RANK AND TITLES OF ARMY MEDICAL OFFICERS —THE MIDWIVES BILL—THE UNIVERSITY OF LONDON.

LONDON, February 21, 1891.

THE Hunterian oration for this year at the College of Surgeons was delivered on Saturday last by Mr. Jonathan Hutchinson, F.R.S., late President of the college. An annual oration on one set theme renders originality of treatment rather difficult, but Mr. Hutchinson managed to impart fresh interest to his subject, as might have been expected from his own versatility and originality. He urged that the Hunterian oration might, with propriety, be given in honor of the Hunter family rather than in that of one of its members. He would go further and say that it should not forget the Paul family either, for Paul was the maiden name of the mother of William, James, and John Hunter, and of the grandmother of Joanna and Dr. Matthew Baille.

Had there been no John Hunter, observed Mr. Hutchinson, William would have been accounted a genius. His fame was great, but his brother eclipsed it. The similarity in the tastes and endowments of the two brothers was remarkable. Both were resolute to base practical knowledge upon anatomical and physiological research; both zealously taught anatomy; both were indefatigable collectors of facts; both made large museums. The museum collected by Dr. Hunter, and bequeathed by him to the University of Glasgow, was second in value only to that now possessed by the College of Surgeons here.

Mr. Hutchinson protested against the custom of Hunter's biographers to represent him as the uncouth and uneducated son of a Scotch farmer, and as having been brought up for the trade of a cabinet-maker. It was possible, but not certain, that before coming to London he had wasted two or three years by working as a cabinet-maker in Glasgow. There was no doubt that in boyhood he had received a good Scotch education in elementary matters, and that during his Glasgow life he must have had fair opportunities for its further development. It was incredible that a brain so active, with such a thirst for knowledge and such a love of thought, could have been guilty of any material self-neglect during boyhood and youth.

One of Hunter's secrets of strength was his patience; he spoke on one occasion of having listened for an hour

to the complaints of a patient who consulted him for impotence. Two other important traits in his character were then pointed out. He was fond of pictures, though there was no evidence that he himself possessed any artistic skill. Both the brothers set a high value upon artistic illustrations of anatomical and pathological subjects. John Hunter never published a single paper or book, the subject of which would admit of illustration, without accompanying his letterpress with a liberal supply of plates. He engaged an artist to live with him in the house, and the engagement was prolonged to fourteen years. Another point was the zeal which he displayed for the record in print or, at any rate, in manuscript, of all observations. He was a prolific author, and left behind him many volumes of notes. It might seem a bold step to seriously compare Hunter with Aristotle, and he was unquestionably far behind the Greek in the breadth of his attainments and sympathies; while the one carried habits of impartial investigation into all departments of knowledge, the other, when he left his own domain, sometimes exhibited only the strength of prejudice. But where they met on common ground the two showed habits of thought and intellectual powers not very unequal. Both were systematic and enthusiastic zoölogists in times when the study of zoölogy was the pursuit of very few. Both saw clearly that advance in natural history knowledge could be made only by the collection of facts, and, realizing that such advance was well worth the effort, both set themselves zealously to work. It had been asserted that between Aristotle and Kant no metaphysician of original power had appeared; in like manner we might say, in reference to scientific zoölogy, that there was no one between Aristotle and John Hunter. In admitting Hunter's inferiority in scope of attainment, we must not forget the great difference in their occupations.

Aristotle, though the son of a doctor, did not practise physic, and was liberally supplied with funds. During the most prosperous part of his career his pupil, Alexander the Great, not only supplied him with money, but collected specimens for him in distant lands. As had been remarked by Sir Alexander Grant, never before or since was the endowment of research on so liberal a scale. Our countryman had to earn every pound he expended in zoölogical science by the exercise of a toilsome profession. In one characteristic, Hunter and Aristotle greatly differed. Aristotle carved for himself, in Plato's school, the cognomen of the "Reader." Hunter acknowledged that he did not read much. His writings were all from his own observation. He scarcely ever made a quotation, and rarely mentioned a name. As to how far this neglect of professional literature was an advantage, and how far a loss, there might possibly be some difference of opinion. Mr. Hutchinson said, however, that he must admit that Hunter's work on the Venereal Diseases, though abounding in sagacious thought, was in many respects behind the knowledge of his day.

It had been said many times that the source of Hunter's success lay in his combination in one person of the qualities of thinker and observer. Every page of his writing went to prove that he was an observant man. "Don't think, but try," was one of the now celebrated sentences in which he inculcated upon one of his friends the duty of experiment and observation. In it the word "think" must of course be understood in its lower sense as applied to an untested belief or supposition, a sort of taking for granted. Hunter never uttered one syllable in disparagement of careful thinking. There were, however, other qualities of great importance which were elements in Hunter's character, and first among these must be placed his insatiable thirst for knowledge. This was innate, it was born with him, just as were the color of his hair and the form of his features. Was it an advantage to him or a reverse that he was brought up on a farm, and that all the tuition he got was at a parish school? Probably his country pursuits not only favored his physical development, but were useful in forming his powers of observation and self-reliance. As to the school, much would depend on the schoolmaster, but it was unquestionable that Hunter was fairly well versed in the elements of school education, for he mixed in London with men of high training, and was a prominent fellow of the Royal Society. University training at the proper time might have been useful to him. We knew what Hunter, unaided by this training, did actually accomplish. We should err very seriously if we concluded that he would probably not have accomplished so much had his youth been spent at a university instead of in a cabinet-maker's shop. The possession of classical knowledge did not encumber the minds of Bacon, of Harvey, or of Newton, and Mr. Hutchinson expressed his conviction that had Hunter obtained it at the proper time, it would have been greatly to the advantage of his readers and himself.

Mr. Treves as a conservative in surgery is somewhat of a novelty. Had I been asked to name Mr. Treves's favorite surgical virtue, I should have replied that probably "boldness" was the attribute he esteemed most highly in a surgeon. I should, it seems, have done him an injustice, for at the last meeting of the Clinical Society he posed as the opponent of undue surgical interference in certain cases. The operation under discussion was that of removing the vermiform appendix (appendectomy), one which may be said to be associated in no small degree with Mr. Treves's name. A discussion took place on the subject, following the reading of communications from Mr. Herbert Allingham, Mr. Bland Sutton, and Mr. Andrew Clark, in which cases of appendicitis were related. Mr. Treves remarked that Mr. Sutton's observation that one of his cases of appendicitis had "been treated by the methods ordinarily adopted by physicians" had called forth what was almost a smile on the faces of some of the audience. But the "medical" treatment of typhlitis was successful in very many cases, and to treat all these cases surgically would only lead to disaster. The great majority of cases admitted into the London Hospital during the last ten years had recovered under medical measures, and there was no doubt that the epidemic of removal of appendices which had prevailed in some quarters had been extreme. If mere acuteness of symptoms were a guide to operation, many cases would be dealt with where no disease of the appendix would be found; on the other hand, he had known patients to continue at work till the bursting of the appendix. Rectal examination would aid in arriving at a differential diagnosis between trouble in the cæcum and appendix. Reflex pain in the testis, labia, or neck of the bladder should be looked for. He deprecated interference before the fourth or fifth day, and protested against the notion that when anything went wrong with the appendix that the result must either be operation or death. He expected every day to hear that a piece of ureter had been removed in the course of the operation, for it was perilously near.

Dr. Coupland said it was quite refreshing to hear a surgeon approving of medical methods, for physicians had been taunted over and over again with persevering in the medical treatment of these cases. His own observations had led him to believe that trouble in the cæcum itself was extremely rare. He admitted that many cases recovered, but in these he thought the mischief was also in the appendix, and he knew of no sign or symptom which would differentiate one class from the other. What were the indications which justified the calling in of the surgeon? First, those cases, mostly in young people, in which the first symptom was acute peritonitis of short duration—"fulminant" cases; such a case might be one of perforated appendix. The aid of the surgeon should also be sought in cases of suppuration. The debate on this subject is to be further continued at the next meeting of the society.

The recent deliverance of the Secretary of State for War on the subject of the Army Medical Department is not likely to settle the questions at issue. He proposes to grant the compound titles advised by the commission

(Surgeon-Colonel, etc.), but not to give substantive rank to army medical officers. Such a compromise cannot possibly prove satisfactory in view of the extent to which discontent has spread.

The Government has announced that it will not support the Midwives bill; of course this means that the measure will not pass this session, so the question of setting up a fresh grade of unqualified practitioners is postponed for the present.

The reconstruction of the University of London still lags. The latest scheme is satisfactory to the two medical colleges, but not to the two great teaching colleges in London (University and King's College), thus simply reversing the position taken up when the preceding scheme was mooted. We seem, in fact, as far as ever from a settlement of the matter.

INSTITUTIONS FOR DRUNKARDS.

To the Editor of the Medical Record.

Sir: It is to be hoped that Dr. Crother's article, which appeared in the Medical Record of February 21st, under the head of "Institutions for Drunkards," may awaken greater interest in the medical profession regarding the subject of inebriety. Proven to be a disease "susceptible of treatment and cure," it lays legitimate claim to our professional skill, as healers of the sick; and the weight of responsibility becomes greater, in view of the satisfactory results which a better knowledge of its pathology now enables us to secure.

Even the necessity for an asylum or other institution in which to confine these patients is no longer felt.

That they can be cured without these provisions for restraint is being daily demonstrated in this State (Ohio), where not only inebriates, but drug habitués, enjoy the same privileges and liberties that are accorded other patients.

That the results are all that could be desired, is shown by the facts that ninety-seven per cent. of all cases coming under treatment are cured; that less than five per cent. relapse; and that the time required to effectually destroy the depraved appetite—leaving the individual with his accustomed liquor or drug never again a necessity—rarely exceeds three weeks. W. F. White, M.D.

Marysville, O.

"PREACHING AND PRACTICE."

To the Editor of the Medical Record.

Sir: Among those who read the Medical Record and admire its cosmopolitan spirit, it is doubtful if there are many who fully appreciate it when it chooses to indulge in innuendo and *double entendre*. In the editorial of the 7th ult., under the above caption, it is stated: "We advise every one of our readers to be a total abstainer. But we do this on physiological grounds, and not because the physician must necessarily practise all that he preaches." Perhaps only the man who has been tested can fully know how difficult a task it is to appear fifty-two times each year before a censorious public, armed *cap-a-pie* in editorial panoply warranted impervious to all the critical shafts and goose-quills that, with more or less precision, may be hurled at it.

But those who have "enlisted for the war," in the army of the "world-betterers," and have taken the Medical Record "for better or for worse," and embraced in good faith its creed, "The physician should be either a Christian or a philosopher," these simple and single-minded souls would be glad to know just what it intends to teach, and whether while

> "It points the steep and thorny way to Heaven,
> Itself the primrose path of dalliance treads."

In the light of history there seem good grounds for encouragement to the "world betterer;" but we learn from the same great source that we must either progress or retrogress, that eternal vigilance is the price of virtue as well as of liberty, and that many proud nations in the past have permitted, through their constituent members, the germs of degeneracy to take root, resulting finally, as Mr. Wegg would say, in "their decline and falling off."

These dire results have been ascribed to the selfish, the ambitious, the haughty, and the voluptuous, but never to the "world-betterer."

Clergymen sometimes preach the right and practise the wrong, but did it ever fail to result in mental and moral bankruptcy?

"But," it is said, "alcohol is all wrong, and we hope the journal will continue its propaganda against it."

This statement, whether ironical or not, if it means alcohol merely as a beverage, will, in this age of the world, probably be endorsed, and its truth be both preached and practised by every true philanthropist and philosopher; but it is likely to be generally inferred that the Medical Record has some occult reason for putting the bottle and the weed to its own lips while withholding them from others. Regarding the physician's right of refusing a dose of calomel for himself, although he may have prescribed it for his patient, this seems a sort of ethico-pharmacal incompatibility; but it may perhaps pass in accordance with the axiom, "There is no disputing about tastes."

I hope that these friendly remarks will be received in the same spirit—remarks which are chiefly justified by the supposed privileges of an Old Subscriber.

Leavenworth, Kan.

[We have so often stated our opinion as to the use of alcoholic drinks that we may be pardoned if we sometimes fail to treat the subject with due seriousness. People are better without alcohol, but there is a contingent of grown up persons who can drink it temperately without harm. This is what physiology teaches and medical experience confirms. These have always been the views expressed in the Medical Record.—Ed.]

IS IT REALLY AS BAD AS THIS?

To the Editor of the Medical Record.

Sir: The article on "Medical Cannibalism," in the Medical Record of February 28th, interests me. It has interested me for some years. It is nearly impossible now for a man to be "the beloved physician," as of old. So many villains have crept into our profession unawares, and legally, and their methods are so sharp, that in order to compete with them a man has necessarily to be a thorough-bred rascal, and a liar that would even put Ananias and his *frau* to shame—that is if he would hold his own; and why, because the public demand it. If you are called into a class of families that are snobbish, and answer honestly and frankly that your patient has congestion of the lungs, you will, on the return of your second visit, find "Dr. Snide," the eminent specialist for lung diseases, on hand, and you get the "G. B." By the way, "Dr. Snide" is a much younger man than yourself, and has but recently, or within two years, come through his Alma Mater as grist. And if the patient dies, "Dr. Snide" will tell that it was caused by calling "Dr. Commonplace," who made a mistake in the diagnosis, that it is "pneumonia" and not "congestion of the lungs;" and so it goes, day by day, and case after case, with these sharks, whose method of advertising is by the underground railway system of servant girls, "cappers," and "steerers." Every honorable physician can testify to this.

Often when you are called into a new family and you go straight forward honestly about the practice of your profession, your views are sounded as to the propriety of the different "pathies." You answer candidly, not knowing your family, that you do not practise "both ways." Upon your second visit you are bowed out with insulting

remarks about old-time physicians and allopath medicines, and your place is supplied by "Dr. Loose-'em," whose gold-rimmed spectacles, kid gloves, and sweet medicines make a smoother pathway to the grave. When I was a student in medicine, twenty five years ago, there was a little boy running around the street I lived on, ragged, dirty, and with his coat-sleeve to his little, catarrhal nose the greater part of the time.

In a medical sense he was a "blighted ovum." This little wretch studied medicine and graduated. Three years ago a young lady, a member of the "four hundred" in our place, was afflicted with too much lover. I always believed this "B. O." sent her to me. The young lady was violently hysterical, and I simply prescribed tonics and nervines, as I am not in the abortion business.

The young lady returned to this shark, who said that my "treatment was good as far as it went, but did not go far enough." His, or some other person's, went far enough, and I received the credit for not knowing much.

Notice, again, if a physician has a serious case in a paying family how these villains will stir up dissension in that family by the neighbors who come in "to sympathize," as the devil sympathizes with lost souls: "Eureka, I have got you."

I had just such a case of pneumonia. The neighbors used the rack and thumbscrews upon the family to get me to call "Dr. Sneak." At last I gave my consent, as the constant chafing from the neighbors in the sick-room was worrying the patient to death, and I could not be there constantly. "Dr. Sneak" could not come that day, but gave them medicine—"morphine"—and told them to dismiss me and he would come the next morning. All honor to the invalid and the family, they saw through the dodge, and "Dr. Sneak" can never enter their household.

This same "Dr. Sneak" advised another family not to pay my bill, as I had made an error in diagnosis and was only coming there to run up a bill. He promised to back the family up in non-payment, but did not when the law was invoked to collect the bill.

This same "Dr. Sneak" nearly killed another patient of mine. The family were giving my medicine and his also at the same time; both contained opium. These men, gentlemen, are not what we ordinarily call quacks, but are "consistent members" in State orthodox societies. Another orthodox member secretly advertises medicine at one dollar a pint to prevent conception; but his influence with the public is so extensive and the law's delays are so embarrassing that no one wishes to prosecute him. The entire community, church members and all, would be so enraged at a person who would prosecute him that it would break his business up. This shark is viewed by these saints as an immoral necessity, in about the same view as some look upon a licensed house of ill-fame.

Much more can be said, but I forbear.

JUSTICE.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from March 1, 1891, to March 7, 1891

HORTON, SAMUEL, Major and Surgeon. By direction of the Secretary of War, granted leave of absence for two months on surgeon's certificate of disability. S. O. 49, par. 7, A. G. O., Washington, D. C., February 4, 1891.

LIPPINCOTT, HENRY, Major and Surgeon. By direction of the Secretary of War, is relieved from duty at Fort Union, N. M., to take effect upon the final abandonment of that post, and will then proceed to Fort Adams, R. I., and report in person to the commanding officer of that post for duty as Post Surgeon, reporting by letter to the Commanding General, Division of the Atlantic. S. O. 46, par. 9, A. G. O., Washington, D. C., February 28, 1891.

DAVIS, WILLIAM B., Captain and Assistant Surgeon. By direction of the Secretary of War, the extension of leave of absence granted in Special Orders, No. 22, February 5, 1891, Division of the Atlantic, is further extended one month. S. O. 46, par. 7, A. G. O., Washington, D. C., February 28, 1891.

TREMAINE, WILLIAM Y., Major and Surgeon. Having been found, by army retiring boards, incapacitated for active service on account of disability incident to the service, is, by direction of the President, retired from active service this date, under the provisions of Section 1251, Revised Statutes. S. O. 4, par. 19, A. G. O. Washington, D. C., February 27, 1891.

LOSSING, LEONARD Y., Major and Surgeon. Having been found, by army retiring boards, incapacitated for active service on account of disability incident to the service, is, by direction of the President, retired from active service this date, under the provisions of Section 1251, Revised Statutes. S. O. 4, par. 19, A. G. O., Washington, D. C., February 27, 1891.

COONN, HENRY M., Major and Surgeon. By direction of the Secretary of War, will report in person to the commanding officer at Fort Adams, R. I., for temporary duty at that post, until the arrival of a successor to Major Samuel M. Horton, Surgeon, when he will return to his proper station. S. O. 45, Par. 8, A. G. O., Washington, D. C., February 27, 1891.

ELBREY, FREDERICK W., Captain and Assistant Surgeon. Having been examined by a board of officers, and found physically disqualified for the duties of a surgeon, with the rank of major, by reason of disability incident to the service, is, by direction of the President, retired from active service with the rank of major, under the provisions of the Act of Congress approved October 1, 1890, to date from February 24, 1891, the date from which he would have been promoted to the grade by reason of seniority if found qualified. S. O. 45, par. 6, A. G. O., Washington, D. C., February 27, 1891.

Official List of Changes in the Medical Corps of the United States Navy for the week ending March 7, 1891.

RUTH, M. L., Surgeon. Granted one month's sick leave.

EVANS, S. G., Assistant Surgeon. Detached from the Naval Academy, and ordered to the Monongahela.

PRICE, A. F., Surgeon. Ordered to the Monongahela.

HARRIS, H. N. T., Assistant Surgeon. Ordered for examination preliminary to promotion.

PICKERELL, GEORGE MCC., Assistant Surgeon. Ordered for examination, preliminary to promotion.

AUZAL, ERNEST W., Passed Assistant Surgeon. Ordered to the Lancaster.

NORTH, JAMES H., JR., Assistant Surgeon. Ordered to the Lancaster.

GAINES, JAMES H., Surgeon. Ordered before the Retiring Board, March 12th.

Santoninoxime.—This is the name of a substance prepared by Dr. Cannizzaro by the action of chlorhydrate of hydroxylamine on santonine. Santoninoxime is a white crystalline substance, soluble in alcohol and ether, but dissolving in water, whether acid or alkaline, with difficulty. It is stated that this substance possesses the same action in the intestine as santonine, but owing to its lessened solubility it is much less poisonous, and it should therefore be preferred to santonine. Its dose as an anthelmintic is three times as large as that of santonine. —*Journal de Médecine de Paris.*

Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 39, No. 12.
Whole No. 1063.

NEW YORK, MARCH 21, 1891.

$5.00 Per Annum.
Single Copies, 10c.

Original Articles.

THE POSSIBILITIES OF MEDICINE.[1]

By T. GAILLARD THOMAS, M.D.,

NEW YORK.

GENTLEMEN OF THE GRADUATING CLASS, colleagues of a half-hour's birth, who now for the first time open your infant eyes upon the future which is to be at once the arena of your efforts and the criterion of your success, in the name of the faculty of the distinguished institution, of which to-night I am the mouthpiece, welcome—a warm and cordial welcome to the ranks of medicine!

The great Alexander Hamilton, who fell before the deadly pistol of Aaron Burr, was said by an eloquent contemporary to have "bowed before the force of an imperious custom." Like him I stand before you to-night, in obedience to an unwritten law which calls for an address at a medical graduation, on the part of one who, it is assumed, is able to speak to the young graduate words of advice, encouragement, and warning.

May the wisdom of your teachers not be impugned by their choice of Mentor, and may I be inspired to say something which may in the distant future, as you ply your trying calling, come back to your memories with sustaining power, with pleasant recollection, and with inspiriting influence!

The noble and exalted character of the ancient profession which in this hour enrols your names among its votaries has too often been set forth by writers and speakers to need allusion on my part to-night. The devotion which it calls forth from you, the singleness of purpose, the purity of life—all these have been over and over again recited to audiences just such as that which now graces this hall, by more ornate pens and by more eloquent lips than mine. Elsewhere, then, must I seek my theme if I hope to engage your attention or to excite your interest; and in this hope I select from the large field of exhausted topics "The Possibilities of Medicine."

Has it ever struck you as a remarkable fact that many professions fill their ranks, even in this utilitarian day, in consequence of the romance, the dangers, the chances of glory, the opportunities for heroism, the lustre, and the renown which are possibilities in them; in spite of manifold dangers, hardships, and self-sacrifices to which they expose their followers? At this very hour, while our statesmen bemoan the neglected farms of Vermont, New Hampshire, and Massachusetts, located as they are in regions remarkable for beauty and salubrity, men prefer to the quiet lives which their cultivation would cause them to lead, the hard and dangerous profession of the sailor, than which no life could entail more of suffering and of trial. Did our country need volunteers to-morrow, there would be no lack of men who would, for a mere pittance, expose themselves in the ranks of her armies; and the fisheries of all countries are richly supplied by youths whose lives are constantly sacrificed in this hazardous pursuit of a precarious living. The human mind craves just such excitement as is afforded by a journey into Darkest Africa, or by a voyage to the icy north in search of an open Polar Sea.

The magnificent rewards which await the painter; the immortal fame which lies fallow for appropriation by the successful sculptor; the glorious future which is open to the great architect, are enough to give charms to the wretched attic and solace to the impoverished board of the hard-laboring aspirant. How many a gallant youth in this hall would yield up his life willingly to live in history with the fame of Sheridan? how ardently would not another strive through a lifetime of labor and of waiting to lay his country under the debt which it owes to Farragut? and what effort would be too great to secure to another the evergreen crown which adorns the memory of Longfellow? Arms, literature, art, law, divinity, all have bright and glorious rewards for those who have the courage to aspire to them, the patience to suffer for them, the industry to work for them, the genius to obtain them.

Think you that the science of medicine, founded four hundred years before the birth of Christ, the chosen work of our Saviour himself, the most far-reaching and benign of all modern pursuits, stands alone in its inability to reward its votaries? Far from it! Look back with me into history, and I shall not be called upon to take you into the fields of ancient history even; and it will go hard but I shall make you agree with me that of all callings, all pursuits, all professions, the rewards of medicine are greater, more lofty, more desirable, and more enduring than those of any other in existence.

Before proceeding further with our argument, let us agree as to what we will mutually fix upon as the highest and most desirable of earthly rewards. Had this question been put to Buddha, that highly civilized Hindoo would probably have replied, "To be considered a god among men;" Confucius and Mohammed would probably have said, "To be the founder of a religion to which millions would bow;" Cæsar and Charlemagne, "To rule the world;" Washington and Franklin, "To have set up a form of government to be the prototype of the nations for ages to come;" Napoleon I., "To be considered the greatest soldier and statesman that the planet has ever known, even though the attainment of the end should involve wading up to the armpits through blood." You and I, representing as we do the two great moral centres of the universe—New York and Brooklyn—will agree that he who has done the greatest good for his fellow-man, has, in the doing of it, won the greatest reward in Earth's possession, even though no mortal man know of the deed but him!

As you and I look upon the great picture by Vibert, entitled "The Missionary's Story," we see the crown of glory, the diadem of success, not upon the head of the honored and decorated abbot, but upon that of the ragged servant of the cross, with his body deformed by torture and his frame wrecked by toil.

The forces of civilization work hand in hand for the common good. Since the lifting of the veil which, under the name of the Dark Ages, shut out the benign light of law, of progress, of the fine arts, and of religion, how nobly has each of its servitors striven for the re establishment of all that was good and elevating among men! It was as if all forces had combined to woo back the smile of God upon the earth! Let us see what the medical art has contributed as its quota of work for the good of society.

Where are now those dreadful epidemics of the plague described by Thucydides, Procopius, and later by Defoe, which desolated Athens, Florence, and London; and, in

[1] An Address delivered before the Graduating Class of the Long Island College Hospital, March 12, 1891.

the reign of Justinian, are said to have lasted for thirty years, and to have destroyed, according to an estimate regarded as reasonable by Gibbon, nearly one hundred million lives? Gone from the notice of the world, and although, even as late as 1835, showing its horrent front in Alexandria, blocked out from civilized Europe, and reduced absolutely to insignificance by our agent, Hygiene!

Where now is the fiend of cholera, represented by painters and by poets as a fell hag, who, with pallid cheeks and lurid eye, marched, torch in hand, into the hearts of the great seaports of the world, sowing death and sorrow broadcast in her path? Almost a thing of the past! Limited, controlled, and almost wholly imprisoned in that fateful eastern land of Asia, where the demon of disease seems to fight his last fight for existence!

Where is now that yellow "scourge of God," which, only two decades ago, made its home in the lovely city which looks out upon the delta of the Mississippi; made occasional excursions to Mobile, Pensacola, Savannah, and Charleston; at times tramped up the borders of the great river and laid Memphis in sorrow; and, in the beginning of this century even, reached New York and caused its authorities to fence off a portion of the town and call it the infected district? Seized by the throat by our servant, Quarantine, and told in no uncertain terms, "Thus far shalt thou go, and no further!"

Where is to-day that loathsome destroyer of life and of beauty, small-pox, which a century ago decimated nations, entering households and admitting of no escape, doomed the loveliest to death or disfigurement; and scarce more than a century ago, with unbridled insolence marching into the halls of Versailles, laid her polluted hands upon the monarch on his throne and dragged him down to ignominious and revolting death? Lashed to heel by our agent, Vaccination, and, like whimpering hound, held securely in leash.

What has become of typhus, jail, ship, or spotted fever, which doubled the horrors of the horrible sea voyage, and made room in jails and prisons for others to replace those whom it sent to Potter's Field? Swept out of existence as thoroughly and as surely as are to-day the three great moral blots upon the fair escutcheon of civilization, slavery, duelling, and polygamy.

But I must cease my enumeration, though it is difficult for one who loves his calling and glories in its conquests to do so. One more illustration, one which will come closer to the heart of every man among you who loves woman, and surely he who does not is none, and I leave this part of my subject. A few, a very few years ago, the graveyards of all lands, from the most savage to the most civilized, were filled with the bodies of women gone to their last account in the most interesting period of their existence. The very name of puerperal or childbed fever brought the shadow of fear to the face of the bravest man, and through its baleful influence scarcely a hearthside in our land but had a place which stood vacant. To-day, thanks to the greatest of medical agencies, Antisepsis, even in the large lying-in-hospitals of London, Paris, Berlin, Vienna, St. Petersburg, and New York the disease is almost unknown! Where, even as late as ten years ago, fifty were lost, less than one life is lost now!

So wonderful, so startling, so extraordinary are these results that I almost admit to my mind the fear that the non-medical portion of my hearers may suspect me of boasting as I read the record of the proud achievements of medicine during the last hundred years. I have but to appeal for support to the large medical contingent of my audience, and they will bear out the assertion that my claims are even less exacting than they might with justice have been.

You may contend that the very extent of this enumeration of the conquests of medicine proves that the possibility of achievements in the future must, of necessity, be greatly curtailed. This is far from true. There is an old French adage which declares, "Plus on s'élève. plus l'horizon s'avance;" "The higher one climbs, the more extended becomes the scope of vision." One great initial discovery often elevates the students of a science to heights not dreamed of before, from the elevation of which limitless space unfolds itself to view. Think of the secondary discoveries rendered possible by the initial discovery of the microscope, of the telescope, of the Copernican system, of the circulation of the blood, of steam, and of electricity.

When the grand fact was recently established that diseases were transmitted from individual to individual by organisms, which have been styled "bacilli;" that by the growth of these organisms diseases were perpetuated upon the earth; and that by their destruction the affections to which they give rise may be prevented, one of the greatest discoveries of any age was made; one of the most sudden elevations of investigators, with resulting expansion of view, was accomplished that the world has ever known. By it you stand to-night upon a plane far more elevated than that which even the youngest of your teachers occupied upon his graduation. Your possibilities in medicine are proportionately greater than his were; be it your function to profit by your good fortune!

It requires no prophet's power to foretell the fact that the science of medicine, which up to the beginning of the seventeenth century stumbled, foot sore and weary, along its tedious way, with little enterprise or progress; which in the next hundred years began to show decided evidences of awakening power; and which during the nineteenth century has made great and signal strides along the avenue of improvement, stands at this hour upon the threshold of an era which will belittle all the past, and accomplish in one decade of the future more than a century has previously brought forth. I make no reference now to work actually performed by Pasteur and by Koch. I allude only to the principle which underlies the labors of these great men; to the initial discovery which has rendered their secondary discoveries possible. The so-called discoveries of Pasteur and Koch may in the future rank with the fascinating tales of the "Arabian Nights." It matters not if they do; the great ball of knowledge and of truth has been set in motion, and all the powers of earth, if arrayed against it, could not check it in its irresistible progress.

I have received so many kindnesses from my confrères in Brooklyn, and I have so many loyal friends and true in this good city, that I feel to-night as if I were talking to a set of people to whom I could speak confidentially, as if in my circle of intimates, and say what by the world at large might be viewed with critical eyes Feeling so, let me venture to tell you this: Were I offered to-day by some great power the accomplishment of one wish, I think that I would select the destruction of the process by which alcohol is created. I know full well that the most cruel, the most treacherous, and the most vindictive of all the races of the earth are the most temperate; for example, the Hindoos, the Turks, the Arabs, and the most brutal of all savages, the implacable North American Indian. But, putting advantages and disadvantages into mental scales, I should select, as the wish nestling closest to my heart, the abolition of alcohol. If this were denied me, I would choose the power of stamping out forever those contagious diseases which fill our graves with curly heads and dimpled cheeks, and our homes with sorrow that knows no comforting. I would destroy those terrors of the household, scarlatina, diphtheria, and the host of contagious maladies which go hand in hand with them. The first of these wishes is impossible of attainment. But what of the second? Gentlemen, the way to its accomplishment is open to every man with willing hand, determined mind, and intelligent brain who stands before me now. Surely it is not too sanguine a prediction that the next century may see the extinction of contagious diseases.

I have told you how much the science of medicine has done for the prevention of disease. Listen now while I

point out to you how much remains for you and your contemporaries to accomplish.

Although by no means proven, it appears probable, that in the animal system there are elements which furnish food for certain organisms, styled bacilli, which, being attacked by these, help them to flourish so luxuriantly that their multiplication excites a tremendous reaction in the economy, which often ends in death; and that these elements once being destroyed, do not often reproduce themselves, and the recurrence of a successful invasion by that particular variety of bacillus is not again possible. How else can we account for the immunity secured against second attacks from the occurrence of one invasion by small-pox, varicella, whooping-cough, scarlatina, measles, and other contagious diseases? It was probably in this way that the prevention of small-pox by vaccination was accomplished.

Jenner, finding out that a disease of the cow, called vaccinia, used up in the system of milk-maids the food upon which the germ of small-pox lived; and believing in the old doctrine, "in time of peace, prepare for war," systematically laid waste the country before any future small-pox raid could start out upon its course, and rendered invasion impossible.

This appears to be a philosophical and satisfactory explanation of the method of protection accomplished by vaccination, and one would have expected that ere this a law would have been established with regard to the matter, and other similar discoveries made. Vaccination was discovered in 1799; since that time not one other contagious disease, unless the claims of Pasteur and of Koch should prove valid, has been prevented by the development of this brilliant idea! What a wonderfully rich and fascinating field of labor here opens up before the ambitious aspirant, and how promising its future appears!

But this is not the only way in which diseases have been checked. In certain maladies the pabulum of disease germs, while not destroyed beyond the power of reproduction by one attack of a disorder, appears to be to a great extent damaged in quantity and quality by certain drugs. Thus we see the salts of mercury greatly limiting the development of "lues venerea," and the bark of the cinchona tree to a certain extent controlling that curse of our country, malaria. And yet, strange as it may appear to you, of the so-called specifics in medicine these two stand entirely alone. I challenge the mention of any others.

Here again I direct your eager eyes up an avenue leading to fame and usefulness, scarcely less promising than the one previously mentioned; an avenue in which industry and genius have full scope for exercise, and one filled with rewards which must satisfy any truly noble ambition.

But you will say this very paucity of result proves the difficulty of the work; it is easy for a speaker to point out the way and to say "go thou and follow it;" how are we to solve a problem which has already proved so difficult of solution? Your elevation is greater than that of your predecessors; the scope of your vision is much more extended. Jenner's discovery was the result of empirical observation; the discoveries of Koch are guided by the pure and certain light of science. You stand not where Jenner stood, but where Koch stands.

If it be true, and there is no reason why it should not be so, that by previous destruction of pabulum in the blood, either by the action of drugs or of ptomaïnes, or by the discovery of phagocytes, or opposing bacilli, the invasion or successful advance of the germ-elements which create contagious and infectious diseases can be controlled, a field of labor will be opened to the physician which will make of medicine the most fascinating of callings.

The future is pregnant with promise. Young aspirant for the glory, the greatness, and the honors of that future which like a smiling landscape spreads out before you to-night, "I tell you that many prophets and kings have desired to see those things which ye see, and have not seen them; and to hear those things which ye hear, and have not heard them."

Gird up your loins, then, and enter the arena with determined purpose and honest ambition. In the words of Virgil, "Hic labor, hoc opus est;" the way to the solution of the problem must be found by your industry, your ingenuity, and your perseverance; in other words, by those qualities the combination of which is called genius. Did you ever hear of the solution by Darwin of the question as to the reason why clover grows so much more luxuriantly around human habitations than in places at a distance from them? Let me relate it to you as a good example of the method in which, by careful observation, by patient research, and by persevering labor, secrets hidden in the arcana of nature may be laid bare; as an illustration of the fact that truths in science are not stumbled upon hap-hazard, but are arrived at by working "line upon line, precept upon precept, here a little and there a little;" until the moment of fruition comes, and the investigator is rewarded by success. Such successes are called efforts of genius. But what is genius? The power of prolonged, undeviating fixation of thought; an absorbing mental devotion to the development of an idea; a "prolonged attention," as Sir William Hamilton tersely expresses it. Men phenomenally capable of such mental efforts live once in a century, not oftener. Socrates, Newton, Shakespeare, Napoleon, and Darwin mark the lapse of centuries in time as mile-stones mark the lapse of space. Oh, that Darwin had been a physician, and that he had stood on the night of his graduation just where you stand to-night! Oh, that among the gallant cohort of faithful men who face me now, more than one Darwin may be returning my glance!

But this is a digression. Let me return to the story of the clover. Clover is fructified by the transportation of pollen from male to female plants upon the legs of bees. Its petals are stiff, and thus the common bee is too light in weight to bend them apart and carry the pollen far enough down to accomplish the fructification of the plant. The heavy humble-bee only is capable of doing this. Now, the humble-bee lays its eggs just below the surface of the green sward, and here the field mouse devours them. Where cats exist field mice are kept from becoming numerous, the eggs are preserved, and thus it is that clover flourishes where man has his habitation and his companion the cat is present.

By just such reasoning has Metchnikoff, the bacteriologist, worked out his problems. Take, for example, his demonstration of the fact that the leucocytes of the green frog acted as phagocytes, or devourers, upon the bacilli of anthrax, to which that reptilian is invulnerable in a temperature less than 68° F. Filling a small sack made of the pith of a reed with anthrax bacilli, he put this under the skin of a green frog and sewed up the cutaneous incision. In a few days the lymph of the frog passing through the walls of and into the sack without leucocytes, the bacilli grew rapidly. Under the skin of the same frog, he at the same time inserted a piece of the spleen of an animal which had just died of anthrax. This he left unprotected by a sack. The leucocytes of the frog devoured the bacilli, and not one lived to perpetuate the disease. They acted as phagocytes, and Metchnikoff, by this simple and very ingenious experiment, proved that it was in this way that the frog was rendered invulnerable to this disease. At no distant period we shall probably see Metchnikoff cultivating thousands of the leucocytes of the green frog, inoculating with them other animals suffering from anthrax, and thus opposing one bacterial army by another, as Pasteur has already done.

Gentlemen of the graduating class, I have lauded to you the possibilities and the rewards of medicine; I have defined for you my conception of earthly reward; let me now test your sympathy with my views by putting to each of you in sober earnest this question: Which would you prefer to be—not during the insignificant period of two or three decades called your lifetime, but in that posthumous time which is called history—the soldier who, even in defence of his country and her supposed rights, has

won victories, filling households with sorrow, and inflicting the horrors of war upon a nation; or the man who has blotted out from the list of diseases that terror of the nursery, scarlet fever, which has in the past created, and is now creating, such havoc in our households?

Would you prefer to be the creator of that wonder of art, the Angelus, which for ages will continue to give real pleasure to thousands of people, or the man who for all time takes from his fellow travellers along the painful pathway of life, the terrible scourge called diphtheria? Would you prefer to receive the well-deserved rewards which have fallen to the greatest captain of our time, Von Moltke; or those which await Koch, if the cure of tuberculosis becomes practicable through his efforts?

The motto of the New York Academy of Medicine, coming down from mythological times, is this: "Homines deos accedunt, hominibus dando salutem." "Men most nearly resemble the gods, when they afford health to their fellow-men." If, as now seems highly probable, Robert Koch should succeed in curing and preventing tubercular disease in its various manifestations, what greater reward could he possibly ask for than the pleasure which he must feel when the reflection to which this motto gives rise comes to his mind? The reward of the physician whose happy discovery stamps out a disease which before his day slew its thousands, comes from the hand of no emperor; his glory from the appreciation of no applauding multitude; his renown from the pen of no fulsome historian. For him the victor's crown comes from the hand of the immortal God; his glory from the satisfaction of doing a great and glorious work; his renown from the gratitude of his fellow-men! The "great wakening light," which blessed the eyes of Abou Ben Adhem; not the imperial purple which decked the shoulders of the mighty Julius, constitutes his diadem and causes a halo to shine around his head!

In the golden days of chivalry, when a young knight was to receive the accolade and become the defender of the weak and the redressor of wrong, he was required to spend an entire night in a cathedral, or other solemn place, reflecting upon the purity, the beneficence, and the grandeur of his new office, and in forming the noble resolve to make it no trade, but to administer his duties with the love of man in his heart, and the glory of God in his soul. Let this night and these exercises bear to you the relation of that vigil night of old!

Medicine is the noblest of professions; the meanest of trades. Unless you can live lives of purity, of virtue, of honor, and of honesty, seek a livelihood elsewhere, and insult not the gods by striving through base methods and ignoble ambitions to resemble them!

Will you not now fully agree with me when, in closing this address, I ask you whether the possibilities of medicine are not really greater than those of her sister sciences and arts? Will you not accord in my postulate that arms, arts, literature, science, all have their rewards, but that not one of them surpasses in the magnificence of its gifts those of which the god-like science, Medicine, is capable?

When, a quarter of a century hence, I meet with one of you, as we both wend our ways along the highway of life, my locks as white as the driven snow, and yours as white as mine are now; come up to me, report yourself as a member of the graduating class of the Long Island College Hospital of 1891, and tell me which one of the beneficent discoveries, which the next twenty-five years are sure to bring forth, has been the means of causing you to resemble the gods and enrolled your name "among the few, the immortal names that were not born to die;" and I, recalling at once to mind you and this pleasant evening, which has made us acquaint, will bid you God speed, even as I do to-night.

Good for Mexico.—Mexico has nine medical schools in each of which the course of study is six years.

COUGH: ITS USES, SIGNIFICANCE, AND INDICATIONS.

By JAMES R. LEAMING, M.D.,
NEW YORK.

THE sound agrees with the sense. Cough is explosive and suggests forcing confined air through a passage. Its most obvious use is expulsion of mucus through the air-passages. Not so obvious, but equally important, is the expansion of the lungs. These two necessary conditions of health are maintained by this complicated automatic cough machine with which we also breathe. A deep inspiration is immediately followed by rigid contraction of the larynx to prevent the escape of the inspired air; and at the same time the diaphragm and intercostal muscles contract with all their power, secondarily assisted by the rigid contraction of the muscles of the abdomen and the perineum. At the supreme moment, when the contained air is most compressed, the muscles of the larynx give way and the tidal air is shot out, as from a gun-barrel, forcing out with it mucus, blood, or other foreign matter, producing the sound which gives it its name—cough.

There are two sources of stimulation which excite this act: 1st, that within the tidal air-tract; 2d, that within the pleuræ. The tidal air-tract is that part of the upper air-passages traversed by the air, in and out, in respiration, and is where air-friction is maximum. It is characterized by cartilage within the fibrous bronchial sheaths and the absence of alveoli. It is merely the passageway, and performs no other part in the office of aëration of the blood. The true respiratory system is characterized by the absence of cartilage within its passages, by the development of alveoli, and where air-friction is least. It is constantly distended by residual air, which is a barrier to the passage of inspired air in a body. "Two bodies cannot occupy the same space at the same time," is an axiom of physics, but the inspired air immediately mixes with the residual air by the law of diffusion of gases, and the distensible true respiratory system expands correspondingly.

Mucus, and in a degree pus and blood, occurring in the true respiratory system, are raised upward by the ciliary movement peculiar to the mucous membrane of this locality, until, reaching the tidal air, they are caught up and rushed out with an explosion. While this process is constantly going on in the upper air-passages of raising and expelling the mucus, at the same time, and by the same act, the residual air confined within the distensible true respiratory system is forced by the diaphragm upward against the lungs. The arrangement of air-sacs, terminal bronchi with their still more distensible alveoli, gathered into little bundles or lobulettes, and these into lobes forming the lungs, all covered in with pulmonary pleura only a little less distensible than what it contains, presents a system allowing great expansion without injury during the violent and repeated assaults of the diaphragm, but allows them to be dilated to their natural condition. The outer covering of the lungs, which keeps them in form and protects them from injury, is reflected upon the chest wall and forms a shut sac, the pleural cavity so-called, which is never a cavity except by pathological cause, but allows free movement of the lungs, and also furnishes a place for deposit for pathological products thrown out of the circulation. The blood of the body is brought to the lungs for aëration, oxygenation, purification. The residual air is filled with poisonous elements in gaseous form, derived from the venous blood, and were it not for the combustion constantly taking place in the lungs, the interchange of oxygen and carbon, their mutual attraction for each other as opposites and repulsion as similars, the life of the individual would at once come to an end. But purification takes place as by fire, and the separation of the poisonous gaseous elements on either side of the true respiratory line in the alveoli is maintained. Otherwise the exceeding tenuity of the membranes forming the

lungs would be no barrier to auto-infection from either side. But such elements as cannot be burned up and purified, or thrown out of the system by the natural emunctories, are extruded through the pleura and remain as a temporary deposit upon its surface, where, if nature is unable to remove it, or if it organizes into imperfect membrane, it immediately commences to contract, and shuts off in a degree the circulation in the capillaries of the periphery of the lungs. It may be but the beginning of simple fibroid, and its disabling effect only mechanical; again, it may be more mischievous, of a cancerous or tuberculous character, and its organization upon the pleura be but the beginning of active disease. Like the Mormons driven out of a healthy state organization into a territory, they there maintain a rival government with concentrated powers for evil, and they must be subdued, for they threaten the existence of the states. But the exudation upon the pleura is foreign, whether malign or benign, and excites cough while yet there may be no exudation of mucus. But in time the blood dammed up in the capillaries is back-watered into the nutrient arteries of the lungs, congests the bronchial arteries from which they are derived, and exudation of mucus or blood in the bronchial tubes is the natural relief; and this again excites cough: the cough of expulsion and the cough of expansion.

These facts in regard to the uses of cough are not enough considered. The popular demand is to stop the cough. But stopping the cough without removing the cause only increases the evil tendencies of the disease. There are other and successful ways of managing the cough than by overpowering the system with opiates.

About thirty years ago, Dr. George Philip Camman was elected a member of the New York Academy of Medicine and furnished his first paper, which, at his request, I read before the Academy. It was upon the management of cavities in the lungs by posture and position, in order to empty them, and thus to gain rest and sleep without giving large quantities of medicine. For instance, a patient coughs during the day when he is up and about, expectorating with relief. But at night, when seeking rest, he can lie but upon one side and then is kept awake with a teazing ineffectual cough. But if he attempts to turn upon the other side he is attacked with strangling and turns immediately back. Careful examination discovers a cavity with an opening in the roof, as considered in regard to the erect position of the patient, which, when he lies upon his left side, allows the contents to be discharged but partially, and consequently continually. But, by direction, turning over on the right side, and resolutely remaining there, discharges it completely and immediately. After which he can turn back upon the left side and sleep quietly until morning. The same principle may be carried out with a cavity, with a few exceptions, however situated in the lung or connected with a bronchus.

Mucous membranes of the air-passages, generally so sensitive, sometimes become tolerant to a wonderful degree. I have seen a man with an abscess in the pleura lying on his side, discharging pus through his mouth into a vessel, without cough.

A well-known former member of this Academy, and a visiting physician at Bellevue Hospital, had a superficial cavity in the right lung, in front, extending from the clavicle to the fourth rib. As soon as he began to move in the morning the cough commenced, and it was a struggle from that time on until it was emptied, which was at about two o'clock. He took an opiate in the morning, but it had no effect until after the cavity was emptied. The cough, strangling, vomiting, and disgusting nausea were painful to bear, and even to witness. Dr. Weir had just brought the first aspirator to St. Luke's Hospital, and I proposed to my friend and patient to draw off the contents each morning, but he declined it. The wall of the chest was the wall of the cavity, and a small Wyman's trocar and cannula would have been preferable to the aspirator. The cough performing its uses of expulsion or expansion should not be prevented. It should be guided so as to do its proper work without doing injury.

Whooping-cough is a self-limiting, self-protecting disease of infancy and childhood, and if uncomplicated forms no pathological products within the air-passages. The first few weeks is called the inflammatory period, in which the patient must be watched to prevent inflammation and dangerous complications. The cough must be modified and controlled, but not stopped.

The great use of this cough is in correcting the little disabilities which occur in infancy and childhood from colds and inflammations, or where portions of the lungs remain from birth undeveloped, as in atelectasis. There the whooping-cough becomes a powerful agent in expansion, and is a means of restoring the lungs to their normal state.

The disease appears to be mostly one of the pneumogastric nerve, and consequently the cough is characteristic. The irritating motive being located in the larynx, a succession of explosions ends in a long, noisy inspiration. But this is not always the case. I have seen a little member of a family of children all suffering with whooping-cough, who did not cough, but sneezed convulsively about as frequently as the others coughed—nearly every hour. He would feel the attack coming and brace himself to meet the inevitable, crying until it had passed. He had the same disease as the others, but the point of great irritation was removed from the larynx to the Schneiderian membrane.

I have seen a child who had been exposed with her playmates to whooping-cough, and while they coughed and whooped in regulation manner, she coughed, but only whooped in an undecided, doubtful manner, a few times; the disease running the usual time and getting well without pathological results in the lungs or air-passages.

We have already introduced the great pneumogastric nerve, or *par vagum*, as it is sometimes called, on account of its vagaries, for it goes everywhere.

In a well-appointed dwelling-house, in the proper place, will be found a little instrument to which wires running from every part of the house are attached, a bell, which rings and gives notice of the approach or interference of an enemy in the remotest part of the house. This is the ever-watchful burglar alarm.

The par vagum performs that and greater offices in the house of the soul, and its bell is constantly watchful. A pea put into the ear may cause cough or vomiting, hardened wax also. The cutting of a tooth may do the same. The air-passages and interpleural surfaces are the more direct avenues, and are the most obviously useful. Worms or indigestion are heralded with a cough. The kidneys and the liver telegraph, and announce the result with a cough. The reproductive organs have a peculiar sympathy with the par vagum, although perhaps no direct communication, unless it be through the great sympathetic.

Last summer I saw a young girl who came from a noted health-resort remarkable for altitude and dry, pure air, who was at a boarding-school. She had had in the spring what is called in her country mountain fever. She had recovered from it, but was chlorotic, and coughed hysterically incessantly. There were absolutely no pathological conditions to account for the cough. It was simply neurotic. I called it the hysterical cough of chlorosis. I recognize that, while not a frequent form of cough or of hysteria, it still occurs often enough and with peculiarities sufficient to be placed in a class. Since writing the above I saw in the London *Lancet* of December 20th last, "Remarks on the Barking Cough of Puberty," by Sir Andrew Clark, who has seen a large number of cases and has made a careful study of them, and gives a number in detail, boys and girls. We have many more such cases among girls, here, than among boys, for there appear to be peculiarities that are due to environments.

The American girl is bright, eager for knowledge, and is self-assertive. Her neurotic state will bring about more marked exhibitions of her peculiarities, not like her sis-

ter the English girl, nor the Continental. The English and Continental girls are not so soon developed mentally nor so demonstrative. The American boy is not like the ones described by Sir Andrew. They rarely have the barking cough of puberty. I do not remember to have seen one. The English boy, and especially in a minister's family, is repressed, private-secretary like, and will take on the barking cough of puberty when he is run down and made nervous. Both terms, the hysterical cough of chlorosis and the barking cough of puberty, might be used. Sir Andrew Clark states that he has seen about twenty cases, so that the disease is not frequent. Sir Morell Mackenzie reports one. One of Sir Andrew's could hardly be classed as pure neurosis, as he had dry râles and irregularity of the heart's action, and within the ten years which had elapsed since, had had two inflammatory attacks of bronchitis. But another case, a little girl whose cough drove everyone but her mother out of the house by its terribleness, was entirely cured by fright at the proposition to perform an operation upon her throat, displaying the instruments, etc., when she darted away and hid herself and was not found until late at night, and then her cough was gone. Entire proof of its neurotic character. I have an idea that I have seen other cases than the one I have reported, but I have no notes and can remember but one other which was well marked.

The par vagum is a chummy, friendly nerve. It is the source of all our friendships. We dine together, meet together, drink together, smoke together, by its influence. And in an assembly of people a cough will immediately be answered by coughs through the hall. One watching, too, who knows what he hears, will recognize the short hack of pathological conditions at the apices of the lungs; or it may be spasmodic, which indicates the lower part of the chest near the diaphragm as the location of the disease; or the cough may be simply catarrhal or nervous; or he may hear the scraping of the throat, the bringing up mucus with a rasping noise, which is a peculiar cough, and indicates old pleuritic adhesions relieved thus by a constant flow of mucus. Sometimes you may pick out of an audience several such, but whenever you hear this sign you may look for a thin, nervous, Cassius-like individual, "who thinks too much." For the scraping of the throat, the thin, anxious, worrying individual and old adhesions go together.

VALUE OF THE SUBCUTANEOUS ADMINISTRATION OF GOLD AND MANGANESE IN THE TREATMENT OF TUBERCULOSIS.[1]

By JOHN BLAKE WHITE, M.D.,

PHYSICIAN TO CHARITY HOSPITAL, ETC.

THE history of experimental pathology in relation to tubercle dates far back to the time of Laennec. The subsequent diligent researches of Cruveilhier and Erdt and Lombard added vastly to the stock of knowledge respecting the development of tubercle, but it was due to Klenke, and later to Lebert, of Breslau, and Villemin to first demonstrate the possibility of cultivating tubercle artificially by inoculation with opaque and transparent tubercular virus. I do not, however, propose to recapitulate the profoundly interesting advances made by that laborious galaxy of histologists who have successively added to our store of knowledge in relation to tuberculosis, until almost the culminating point of investigation appears to have been attained. It is enough at present to state that by far the most important doctrines in relation to tubercle and scrofula have been established by the experimental researches of the last twenty years.

The discoveries of Koch, within the last decade, have, indeed, opened up a new era in therapeutics. The future practice of medicine it would seem, must henceforth, in a great measure, be conducted by the hypodermic administration of remedies through that long-neglected avenue to the system, the absorbents. The special absorptive powers of the lymphatic system have been too clearly established, first by the illustrious Alexander Munro, in the beginning of the eighteenth century, and subsequently by John Hunter, to admit of any hesitancy on our part to trust at the present, its ready and beneficent co-operation.

Virchow has taught that the primary lesion in scrofulosis is simple hyperplasia within the glandular tissue. Shüppel has also proved that a scrofulous gland is indeed a tuberculous gland, and Friedländer has authoritatively asserted that the microscopic characters of lupus are identical with those of tubercle. In view, therefore, of such declarations from acknowledged men of science, taken together with the generally accepted opinion that the lymphatic system is especially prone to tubercular degeneration, I submit the inevitable conclusion, that the only true and direct route by which we may expect to antagonize such maladies must be through the skin and thus immediately into the avenues of the absorbent system.

When we desire to secure active and speedy effect of a remedy we must have recourse to the hypodermic method. We cannot fail to admit that remedies introduced by the mouth to antagonize diseases originating in the glandular system are subjected to too great dilution and chemical change in their course before they reach the seat of lesion to expect the advantage that surely would accrue if introduced more directly into the circulation by the subcutaneous route.

Taught by recent experiences, the wise physician of the present day must recognize the fact that the numerous elements of our materia medica known to possess power of antagonizing disease have heretofore failed, owing rather to error in their mode of administration than to deficiency of virtue or potency in the drug itself.

The powers of an ill stomach may well be spared the incongruous task forced upon it of distributing drugs to distant morbid conditions and assimilating nourishment for the support of the body.

Even though the intimate composition of the lymph of Professor Koch be destined to remain a secret from the profession he so greatly adorns, medical men throughout the world must ever be profoundly grateful for the new direction his genius has opened in the practice of medicine.

Functional incapacity of the organs of digestion and assimilation is the first evidence presented to us of tubercular invasion, which is manifested by absorption of the adipose tissue and by muscular atrophy—depending upon faulty nutrition. Such condition, as we are all aware, is followed by listlessness and low vitality, which lessens respiratory vigor, favoring the accumulation of mucus in the air-cells and bronchi that in turn excites inflammation, and so becomes the nidus of inimical bacilli. Dr. Sibson very aptly and truly says, that not only life depends on respiration, but vital energy is in a great measure governed by the freedom and capacity of the respiratory organs. It is not a difficult matter to appreciate this when we contemplate how dependent is the condition of the blood upon the aeration afforded through the medium of the lungs, and that whatever impedes or interferes with thorough oxygenation of this vital fluid must favor physical decay, for the prime condition of phthisis is impurity of the vitalizing current.

It will be therefore seen how important a matter lung exercise becomes, not only to those subject to pulmonary disease but also to the healthy and strong. The less these organs are used and expanded the more useless they become, as has been so forcibly dwelt upon by our own distinguished authority, Dr. James R. Leaming, and present a ready recipient of micro-organisms, while the more their full capacity is encouraged the more is their vitality established.

The apices of the lungs are the first tracts to break

[1] Read before the Section of General Medicine, New York Academy of Medicine, February 17, 1891; also, by special invitation, before the New York Medical Union, March 10, 1891.

down, because, as is generally supposed, there is less expansion of this portion in the ordinary respiratory act, and this passive state especially favors tubercular inception and degeneration.

The early detection of lesion is not an easy matter, but requires frequent critical observations extending over long intervals of time to be discerned, for morbid processes in the lungs are very insidious, creeping along almost imperceptibly, until, in the language of Aitken, "day by day, and grain by grain the mortal part wastes and dies away." Aitken declares that one of the best indications of advancing tuberculosis is gradual but continuous loss in weight, or, more properly speaking, a deficiency in the ratio of weight to age, height, and respiratory and other functions. There is no doubt of this in my own mind, the difficulty being in fixing this ratio, which, however, is quite practicable. It has been my practice to estimate in all cases the respiratory capacity and to base my prognosis, in many instances, largely upon the data thus obtained. If I find the respiratory capacity progressively lessened while a patient remains under observation, I have been led to regard the prospects of advancing tuberculosis very probable, especially if associated with this condition is found progressive failure of nutrition.

There is an undoubted period preceding the deposit of tubercle in which the blood becomes impoverished through faulty digestion and assimilation. This is the stage described by some authors (E. Smith and others) as the pretubercular; and as it precedes the deposition of tuberculous matter we cannot afford to wait for the actual detection of the tubercle bacilli before a diagnosis is made and a proper line of treatment determined upon.

The observations of Dr. Bennett, of Edinburgh, confirmed by many others, tend to prove that treatment simply aimed to correct malassimilation of food not infrequently arrests the tubercular process and causes the complete disappearance of all general symptoms, as well as physical signs of tubercular degeneration.

The dictum uttered by Cullen is sound to-day, that "beyond a certain degree of emaciation and debility no man recovers." The first and most important indication in the treatment of tuberculosis should be to attempt to re-establish functional activity of the organs most directly concerned in the nutrition, since under the tuberculous influence the vital forces perniciously wane.

Dr. R. C. M. Page[1] declares that true tubercle does not always contain the bacillus, but that true tuberculous virus free from Koch's bacilli is capable, by inoculation, of reproducing itself; which is in accord with other observers, and explains the absence of the bacillus in true tubercle when sought for by its non-liberation, the germ only existing.

Here we have suggested the relation of the bacilli to tuberculosis, which the majority of physicians to-day regard as settled by the deservedly renowned Teuton. As it has been well established by equally high authority that we do have a fixed tubercular state prior to deposition of tubercle, with no bacilli discoverable in the sputum, and as the establishment of tubercular tissue, according to Koch himself, is a necessary condition to enable the micro-organisms to flourish, we are yet unable to reconcile our minds to a full acceptance of the doctrine that the tubercle bacilli are the direct causes of tuberculosis.

We have always considered that they were potent factors in the continuation of the process, after finding a suitable nidus in which to propagate, but not until such condition has been established will a search for the microbe be successful. The discussion of this subject, however, is not a part of this paper, but has been merely alluded to thus far for the purpose of approaching, rationally, the line of treatment to be hereinafter detailed.

For years past pulmonary tuberculosis has been successfully treated by judicious administration of medicines and the institution of hygienic measures in the incipient stages. Cases have also been recorded of well-advanced tubercular processes which have yielded to simple methods of treatment.

To produce a physical condition not favorable to the deposition of tubercular tissue, and therefore inimical to the intrusion and germination of microbic life, has been the ordinary course of treatment long before the bacilli were discovered by Koch. The same line of treatment is even now advised by the distinguished bacteriologist himself, who states that his famous lymph has not the power to destroy the microbe, but that it has selective action in its direction to the tubercular tissue, causing it to be thrown off and leave a condition of tissue vitality which proves an effectual barrier to bacterial invasion and multiplication. This must not only be due to selective action of the lymph itself but to some somatic change effected through the agency of some of its elements, which results in a restoration of functional activity followed by an improvement in general nutrition.

We have in the materia medica remedies that have long been known to possess this particular power, but none in so direct and potent a degree as the preparations of gold, which, from no fault of their own, have long since fallen into desuetude. The precise action of the preparations of gold upon the system is not yet fully determined, but there is ample reason for the belief that they exert a remarkable influence upon the general nutrition. I therefore especially refrain from making, with regard to my own fluid, the mysterious assertion that it might be used in the diagnosis of disease. I think I can venture, however, to assert, and enforce the assertion with reason, that the remedy acts upon diseased conditions with such natural promptitude, being introduced in a pure chemical state directly into the circulation through the absorbents, that in its mode of action it presents all the appearance of an alert detective upon the track of an offender.

The precise mode of action of no element of the materia medica is distinctly understood. That certain medicines do manifest their peculiar virtues upon particular organs of the body has long been an undisputed fact. Why and how Ipecac expends its first effect upon the stomach, Strychnia upon the spine, and Digitalis upon the heart are questions that have never yet been answered. But that any drug is endowed with the faculty to discover and pursue a morbid lesion within the body at large is a new doctrine which, in the present state of our knowledge, we are unprepared to admit. Let us, then, not pretend to claim that this or any other remedy is endowed with the occult and extraordinary faculty to first discover, then pursue existing lesions not yet discerned and located by our own acumen.

I will now proceed to detail candidly the views entertained by high authorities respecting this remedy, being convinced that most of these opinions are true in some particulars, and that the absolute truth will be found in a comprehension of all opinions. From this aggregated testimony the conclusion must certainly be arrived at that the various preparations of gold possess rare and active therapeutic qualities, and in the hands of only the unskilled are likely to occasion other than benefit. The administration of gold in phthisis dates back even to Paracelsus, and up to the times of Horst and Poterius gold in combination with bichloride of mercury was depended on in the treatment of the various cachexias resulting from phthisis, scrofulosis, syphilis, etc.

The violent effects of the remedy in the hands of bold experimenters, however, soon brought discredit upon it, and it is not improbable also that many adulterated preparations were used, which accounted for the subsequent loss of confidence in this remarkable remedy.

The preparations of gold had long been neglected when Christien,[1] in 1810, again brought them into notice and caused their eminent therapeutic value to be fully recognized. He esteemed the chloride to be by far the most active and reliable in its effects, and extolled its efficacy

[1] MEDICAL RECORD, October 13, 1888.

[1] Recherches et observations sur les effets des préparations d'or.

chiefly in the treatment of lympathic degenerations and the cachexias resulting from phthisis, syphilis, and scrofula.

Hoffmann claimed that he obtained from its use entire success in the treatment of cancer of the plyorus and cancer of the uterus. A marked value has been claimed for this particular salt by Hufeland, Herrmann, Riecke, Meisner, Grotzner, Gozzi,[1] Krimer, and Delafield, in dropsies dependent on organic disease of some important viscus. According to Carron du Villards the catamenia is influenced as to frequency of recurrence and quantity by moderate doses of the chloride of gold. Though recommending to favor all preparations of gold M. Pourché[2] rather relied upon the cyanide, which he considered milder in its action than the double chloride and yet quite adequate to fulfil all the specific effects required in the treatment of disease. Pitcairn and Neligan [3] both assert that the chloride of gold, while indentical in its effects with mercury, appeared to exert a more decided influence on chronic syphilis.

The potent efficacy of the gold preparations in syphilis, scrofula, phthisis, tumors of the bones, scirrhous indurations, especially of the tongue, and glandular enlargements have been emphatically dwelt upon by such undoubted authorities as Neil, Cullerier,[4] Mitchill,[5] Biett, Lallemand,[6] Wendt,[7] Le Grand,[8] Eberle, and Kopp.

Magendie [9] declared his belief that the cyanuret of gold promotes coagulation of the blood. When, therefore, a decided modification in this fluid is desired in hemorrhages or in chronic affections, its administration may prove of great value.

M. Chavannes [10] has found the chloride of gold to be a remedy of rare virtue when applied externally as a caustic in lupus, syphilitic tubercles, and ulcers.

Orfila [11] affirms that the chloride of gold is more active than corrosive sublimate, and that when administered in doses of $\frac{1}{20}$ to $\frac{1}{10}$ of a grain it will give rise to more or less inflammation of the gastro-intestinal mucous membrane. Experiments instituted by him upon dogs go to prove that even when a very small amount of this preparation of gold in solution is injected into the jugular vein death will speedily ensue by vomiting and suffocation, preceded by a short paroxysmal cough.

In his experiments upon mammals with the chloride of gold, T. Lauder Brunton [12] found that small doses encouraged the appetite, while large doses started symptoms of irritation of the stomach and intestinal canal together with a pseudo catarrhal condition of the respiratory passages resulting in death by asphyxia. When large doses were injected into the veins œdema of the lungs occurred and death rapidly followed, with convulsions and asphyxia.

No authority, perhaps, ever devoted more careful research into the physiological action of the gold preparations than the justly renowned Aronowitsch. Conducting his experiments with a dilute solution of the double chloride of gold and sodium and also another solution of a triple salt composed of gold, sodium, and sulphur, he found that in cold-blooded animals both preparations caused central paralysis, the respiratory function being affected before that of the heart or brain. In warm blooded animals even long-continued small doses produced no very marked effect, the animals maintaining a good physical condition and even gaining in weight. When the dose was increased, the appetite failed, followed by progressive emaciation, acceleration of the pulse, excitation of the respiration, and decrease in animal heat. When 0.3 to 0.5 gm. of the chloride of gold was introduced under the skin there was great unrest, the pulse became quickened and an exhausting diarrhœa commenced. No more being administered spontaneous recovery advanced in less than three or four hours. After the administration of 1.0 gm. to a fresh subject the same symptoms manifested themselves but with overpowering intensity, destroying the animal in less than an hour after causing decline of temperature with convulsions and arrest of respiration. The post-mortem examination revealed most prominently pulmonary œdema.

Bartholow,[1] while greatly extolling the efficacy of the gold preparations in cancer, scrofula, constitutional syphilis, and in chronic Bright's disease, advances the important observation that they are singularly apt to undergo decomposition in the alimentary canal, a part only being absorbed as an oxide in combination with albumen. This fact would explain, in many instances, the inefficacy of the remedy when used internally, and is the strongest plea that could be advanced for the more direct or hypodermic method of obtaining its effects in the system.

All these authorities, however, concur in stating that the remedy, so potent for ill when pushed to toxic effect, exhibits rare eutrophic virtues when administered in strictly therapeutic doses.

Under prolonged use of the preparations of gold an auric ptyalism may occur, but the salivation thus produced never assumes the same profuse and debilitating character as that superinduced by mercury or iodine.

I have met with one individual in my experience who manifested a peculiar idiosyncrasy against tolerance of chloride of gold. Her pulse and temperature fell below normal four hours after the administration, hypodermically, of a minimum dose, and, without presenting any other symptom worthy of note, these phenomena continued for two or three days. But mark the sequel; after the pulse and the temperature had returned to their natural grade I subjected her to treatment with Koch's lymph and to my astonishment I found her again presenting the identical symptoms above described, which endured about the same length of time. Five minims of a one per cent. solution of carbolic acid was injected also by House Surgeon Dr. Newman without causing the same phenomena.

I believe that the value of gold as a therapeutic agent, especially in phthisis, is enhanced by the addition of the iodide of manganese. This latter ingredient is itself an influential tonic and anti-anæmic, and has long and justly been regarded as on a par with, if not superior to, the preparations of iron. It is an element ever present in the blood as well as in the other fluids and solids of the body, and is certainly better tolerated than iron when administered to remedy the persistent anæmia of tuberculosis.

Under the influence of these combined salts in the manner advised the very action which Garrod hoped to achieve by the salts of potash seems singularly secured, viz.: "a ready metamorphosis of the less vital tissues, less vital deposits, less vital plasma, and of course of the deposition forming the glandular and other swellings of scrofula."

Mr. Hannon tried the carbonate of manganese upon himself. After taking it for several days he observed that his appetite had increased, that a decided tone had been given to his circulation and that the functions generally had been aroused to a more healthy action. He further experimented with it in cases of syphilitic cachexy, phthisis, scrofula, and cancer, and noticed that in every instance the quality of the blood had undergone very marked improvement.

The effects obtained in my own experience with the particular combination I am in the habit of using, hypodermically, have been first exhilarant, followed by an increase in animal heat and vital activity. The pulse becomes more full and active, the temperature rises and a

[1] Sopra l'uso di alcuni remedii aurifici nelle malattie venere.
[2] Journal de Pharmacie, xx., 599 and 649.
[3] Medicines, Their Uses and Mode of Administration.
[4] Dict. des Sciences medicales.
[5] Dyckman's Dispensatory.
[6] Journal universel des Sciences médicales.
[7] Rust's Magazine.
[8] Gazette Médicale de Paris, 1837.
[9] Leçons sur le Sang.
[10] Revue Médicale, 1848; British and Foreign Medico-chirurg. Rev., 1849.
[11] Orfila on Poisons.
[12] Pharmacology, Therapeutics, and Materia Medica, first edition, 1885.

[1] U.-S. Dispensatory, 1884.

decided period of reaction is established. During this period a constriction about the chest is sometimes complained of, amounting in certain cases to absolute dyspnœa. This sooner or later is followed by depression more or less expressed, which never lasts long. These are commonly succeeded by the more permanent tonic and alterative effects manifested by remarkable increase in appetite and weight, with marked amelioration of the various morbid symptoms.

In a few cases presenting idiosyncrasy there resulted, after an ordinary dose, chill and subnormal temperature with headache. In such cases it is unnecessary to advise caution in repeating the dose, as the propriety of refraining must be at once apparent.

The initial dose of the fluid should not exceed one drop for adults, but may be increased to three drops provided no intense reaction has been produced by the tentative doses. When three drops were administered as an initial dose certain cases manifested dyspnœa, increased cough with bloody sputum. These, however, disappeared entirely within twelve hours, followed by the usual exhilarant effect, with amelioration of cough and expectoration.

I have found these salts combined administered hypodermically very efficacious also in the chronic glandular enlargements and sinuous abscesses due to scrofula, chronic obstinate skin affections, especially of a leprous character, persistent anæmias, chronic Bright's disease and the cachexias due to syphilis and scrofula.

For using the fluid, the following directions are to be regarded: Take from five to ten minims of a one per cent. solution of carbolic acid and boil it in a test-tube. (This step is unnecessary if a one per cent. solution of carbolic acid is prepared with distilled water.) When thoroughly cooled, add one or two drops of the fluid (the dose intended for injection), and when well mixed charge the syringe for use. The patient's temperature should be carefully recorded every three or four hours, and no dose should be repeated until the reactionary effects of the previous dose have subsided. It is suggested that the patient's temperature be noted every four hours for several days before treatment is commenced. The remedies introduced hypodermically sometimes produce powerful effects in individual instances, therefore great caution and judgment are to be exercised in their administration. For this reason the initial dose should never exceed one drop for an adult.

In combining the chloride of gold and sodium with the iodide of manganese, unless some special skill is exercised, a precipitate always results which it is very necessary to avoid, because it will be found to depreciate the value of the liquid and may even render it useless.

When correctly compounded it should have no precipitate, and present a rich, transparent, garnet color, as the specimens herewith exhibited.

Thus far it has been prepared in accordance with my directions by Messrs. C. F. Lord, 482 Seventh Avenue, and W. E. Cramer, corner of Park Avenue and Seventy-third Street.

Without taking up more of your time, or fatiguing you with the details of the various cases which have been subjected to the treatment, I will only record a few which have shown characteristic temperature reactions, and otherwise exhibited symptoms of interest, with decided evidences, in individual instances, of benefit from the treatment.

In all but one of the cases reported the diagnosis has been corroborated by the determination of the presence of tubercle bacilli in the sputum, and all manifested physical signs of more or less advanced phthisis. The cases were not selected, but taken as they presented and expressed readiness to receive the treatment.

I desire to express my appreciation of the aid afforded me by my associate, Dr. Charles Lewis Allen, in the observation and care of my private patients, as well as the assistance rendered me in the hospital by my able staff, Drs. J. H. Coughlin, C. J. Proben, and H. S. Goodall.

Case I.—Mr. J. F——, private patient, aged twenty-three, single; collector. Father and brother died of pulmonary tuberculosis. Up to two years ago was perfectly well. At this time took cold and began to cough and expectorate, and with loss of appetite lost flesh rapidly. Indications of tubercular invasion were manifest in both lungs, but the right apex was especially affected. On auscultation loud mucous râles were heard, anteriorly in infra-clavicular region, with few moist fine râles extending down to base of chest, and pleuritic friction-sound subaxillary and posterior aspects of right chest. Under appropriate treatment—inhalations, tonics, etc.—an improvement resulted, but more or less cough with slight expectoration continued.

February 1, 1891: The cough becoming more aggravated, the resulting increase of expectoration and losing appetite and flesh induced him to consult me again. He has been coughing and expectorating a muco-purulent sputa for past six months. Sputum was examined by Dr. Charles Lewis Allen and found to contain bacilli of tuberculosis, which he kindly demonstrated to me.

Physical Examination.—Right lung: Diminished expansion, dulness on percussion anteriorly and posteriorly, extending down to middle lobe. Modified percussion note over lower lobe anteriorly, but dull posteriorly. Moist râles discerned anteriorly, upper portion of lung louder, mucous râles extending down to base with increased fremitus. Posteriorly fremitus increased all over the right lung, and some moist and dry râles discerned. Left lung: Percussion sound modified slightly; broncho-respiratory murmur feeble anteriorly and posteriorly. Some loose râles heard over middle portion of chest. Has some irritation in throat and a feeling of tightness across chest. Body weight, 135 pounds.

First injection, February 1, 1891. Temperature, 98.5° F., 6.30 P.M.; injected 1 drop. I was not able to follow the temperature curve in this case, as he lives some distance from me, but the patient informed me that he felt feverish after the injection.

February 5th. 6.30 P.M.: Temperature, 98.5° F.; injected 2 drops.

February 10th. 7 P.M.: Temperature, 98.5° F.; injected 2 drops. Cough and expectoration diminished and appetite much improved.

February 13th. 7 P.M.: Temperature, 98.5° F.; injected 2 drops.

February 16th. 6.45 P.M.: Temperature, 98.5° F.; injected 2 drops.

February 19th. 6.45 P.M.: Temperature, 98.5° F.; injected 2 drops. All cough and expectoration ceased, no irritation in throat.

February 24th. 6.45 P.M.: Temperature, 98.5° F.; injected 2 drops.

February 26th. 6.45 P.M.: Temperature, 98.5° F.; injected 2 drops. Feels quite well and strong and has no cough or expectoration. Body weight, 135½ pounds.

This patient while under the above treatment received no other medication. His general physical condition markedly improved, cough and expectoration checked. Leading a very active life it is not remarkable that the body-weight showed no greater difference than at the beginning of treatment. The evidences of general amelioration, however, are especially worthy of note. I have desired sputum for microscopic examination, but have been assured that none can be obtained.

Case II.—Miss S——, private patient, aged twenty-one; native of the United States. Began treatment January 11, 1891. Father, brother, and sister died of pulmonary tuberculosis. A year ago began to cough and expectorate a frothy mucoid sputa; throat felt sore and voice was hoarse. Upon examination found percussion-note modified over upper portion of right lung anteriorly, and auscultation revealed harsh bronchial breathing, with few coarse moist râles. For the past year has been much annoyed with irritation and tickling in the pharynx and larynx. Laryngeal examination showed slight œdema of

vocal cords and mucous surfaces about the glottis. Body weight, 120 pounds

January 11th: Temperature, 99° F.; injected 1 drop.

January 15th. 3 P.M.: She said she felt feverish during the evening after last injection. Had slight headache. Cough increased, with a little bloody expectoration. Irritation in throat lessened and had better appetite. Temperature, 99.4° F.; pulse, 94; injected 1 drop.

January 18th. 3 P.M.: Twenty-four hours after last injection, increased cough with bloody expectoration. Cough this day much less. Appetite much increased. Much less throat irritation. Temperature, 98.5° F.; pulse, 86; injected 1 drop.

January 20th. P.M.: No more bloody sputa. General improvement reached. Temperature, 100° F.; pulse, 84; 3 P.M., injected 1 drop. Weight, 121½ pounds.

January 23d. 6 P.M.: After last injection, January 22d, had a little bloody expectoration and felt somewhat feverish during the afternoon. Temperature, 99.6° F.; pulse, 84; injected 2 drops.

January 25th. P.M.: Cough less. Temperature, 98.5° F.; pulse, 80; injected 2 drops.

January 29th. P.M.: Cough decidedly diminished and little expectoration. Catamenia recurred at this time, and the flow was increased. Temperature, 98.8° F.; pulse, 94; injected 2 drops.

February 1st. P.M.: Feels much stronger, and in every respect is better. Temperature, 99.4° F.; pulse, 100; injected 2 drops.

February 5th. P.M.: Temperature, 98.5° F.; pulse, 84; injected 2 drops.

February 8th. P.M.: Temperature, 98.5° F.; pulse, 84; injected 2 drops.

February 12th. P.M.: Temperature, 98.5° F.; pulse, 80; injected 2 drops.

February 15th. P.M.: Temperature, 98.5° F.; pulse, 72; injected 2 drops. Weight, 122 pounds.

February 17th. P.M.: Temperature, 89.2° F.; pulse, 82; injected 2 drops. Cough and expectoration nil, and throat relieved.

February 22d. P.M.: Temperature, 98.5° F.; pulse, 88; injected 2 drops.

February 27th. P.M.: Temperature, 98.5° F.; pulse, 80; injected 1 drop.

March 2d. P.M.: Temperature, 98.5° F.; pulse, 78; injected 1 drop. Weight, 122½ pounds.

No other medication received. Though no bacilli were discoverable in the sputum, I am quite satisfied that the case was one of undoubted pulmonary tuberculosis in its early stage.

CASE III. *Phthisis Pulmonalis; Albuminuria.* — J. E——, male, aged twenty-five; United States, single; wood planer. Admitted to hospital November 18, 1890. Father died of consumption; also a sister, niece, and nephew. For the last twelve years has had more or less cough following an attack of pneumonia. Cough is particularly severe in the morning. Expectorates a large amount of muco-purulent sputa, which on microscopic examination was found to contain tubercle bacilli. At times the cough is so paroxysmal in character that it often gives rise to emesis. Has frequent attacks of diarrhœa, sweating at night, no appetite, and has gradually been losing flesh and strength. Since he began to cough has had hæmoptysis two or three times. In the afternoon and evening has fever and complains of pain over both lungs, extending through to the back, pain increased on full inspiration. Physical examination: Expansion of chest on both sides diminished, with retraction of chest in the infra-clavicular and supra-clavicular regions of both sides, more marked, however, on the right. Vocal fremitus increased on the right side. Left chest anteriorly: Dulness on percussion marked posteriorly. Modified percussion sound over middle or subscapular region. Auscultation revealed loud moist râles in the infra-clavicular region of both lungs, with feeble bronchial respiration. Posteriorly, upper portion of left lung, moist râles with feeble broncho-respiratory murmur. Over lower lobe the respiratory murmur clearer, but a few coarse and fine moist râles were discerned. On the right side, posteriorly, feeble respiration with some mucous râles, especially heard at the base. Evidences of pleuritic adhesions discerned posteriorly in subscapular region along spinal aspect of both chest-walls.

The local disease has not proceeded to a very advanced stage, though softening of the tubercular exudation at the apex of the left lung was clearly discerned. This patient gave evidence of debility, some emaciation, with distressing cough, night-sweats, profuse expectoration, anorexia, and albuminuria, with granular and hyaline casts. Quantity of urine passed in twenty-four hours was 135 ounces. First injection of 1 drop of the gold and manganese fluid was administered December 24, 1890, about 4 P.M. Body weight, 116 pounds. Temperature, 99.2° F.; pulse, 108; respiration, 28. About 6.30 P.M., he complained of a sense of constriction about the chest with some dyspnœa, which soon spontaneously disappeared. The temperature rose to 100.4° F., and afterward gradually declined to normal, not exceeding 99° F., the following day.

On December 27th the quantity of urine passed was 125 ounces in twenty-four hours. At 5 P.M. 2 drops of the fluid was administered, the patient's temperature being 98.4° F.; pulse, 76, and respiration, 28. No record was kept of the temperature after this until the next day, but the curve did not extend above 99.2° F.

December 29th, P.M: Two drops were again administered, the temperature subsequently rising to 101.2° F.; pulse, 120; respiration, 36; and the excretion of urine again increased to 135 ounces per day.

December 30th: The temperature did not exceed 99.4° F.

December 31st: The highest temperature curve, being 99.4° F., and not exceeding this until 4 P.M. January 4th, 1891, when it reached 100° F. An injection was administered January 2d, but no reaction followed.

January 5th: Another injection was given of 2 drops, the temperature rising to 99.8° F., receding to 98.5° F., and rising the following day to 100.7° F., after which it gradually declined to normal. Body weight, 119 pounds.

January 7th: Injected 2 drops of the fluid, the temperature again rising to 100° F. Excretion of urine, 104 ounces a day.

January 9th: Injected 2 drops 10 A.M., reactionary fever not over 99.5° F. Cough and expectoration diminished.

January 11th: Injected 2 drops, followed by slight reaction. Temperature, 99.8° F.; pulse, 92; respiration, 32.

January 14th: Body weight increased to 120 pounds, and urine excreted not more than 86 ounces.

January 18th: An injection of 2 drops was followed by no fever; pulse rate, 78 to 84, and respiration, 32.

January 23d. Two drops were injected, causing a temperature of 100.7° F., and on the morning of the 24th the cuvre reached 102° F., gradually declining. The quantity of urine excreted about this time was 66 ounces per day. From this time on to February 12th the injection of 1½ drop was administered every other day, causing no elevation of temperature above 99.5° F.; the excretion of urine not exceeding 60 ounces, and body weight reached 124 pounds. The patient's general physical condition is markedly better. Has little cough and expectoration. Appetite excellent, and manifests every evidence of amelioration of his disease. Latest body weight, 125½ pounds, being a gain in weight of 9½ pounds to February 20th. Urine examined February 27th by Drs. R. H. Pomeroy, P. Meirowitz, and A. Rosenthal, of the house staff. Barely a trace of albumin, and no casts found under the microscope. The prompt amelioration of the nephritic symptoms in this case is no less remarkable than the benefit which the patient experienced from the injections in respect to his pulmonary and general physical condition.

Case IV. *Phthisis Pulmonalis; Albuminuria.*—W. D——, aged thirty; Ireland; single; stableman; admitted to hospital November 26, 1890. Family history negative. Twelve months ago was quite ill and had a severe cough with hæmoptysis resulting from a thorough wetting and going to sleep in his wet clothes. Cough always more severe at night and in the morning, when he expectorates a large amount of muco-purulent matter. Has lost much flesh, and strength much reduced. Sputum shows the presence of bacilli. Albumin, with casts, in the urine.

Physical Examination.—Emaciation. Expansion lessened on both sides, with marked infra clavicular depression. Fremitus increased over both apices. Percussion dull over left apical portion anteriorly. Modified percussion-sound in subaxillary portion and in subscapular region. Right side: Exaggerated resonance in infra clavicular region as far down as third rib, posteriorly, and in subaxillary space marked dulness on percussion. Auscultation: Broncho cavernous respiration right apex and infra-clavicular portion of lung, with loud gurgling crepitation as far down as third intercostal space. Coarse moist râles also heard anteriorly and posteriorly over right lower lobe. Left side, anteriorly loud moist râles and bronchial respiration extending down to base and a similar condition heard posteriorly, with some subcrepitant rhonchi. First injection of 1 drop gold and manganese liquid was administered December 26, 1890. Body weight, 113 pounds. Urine excreted per diem, about 55 ounces. The temperature at the time of the injection was normal; there was only a slight reaction to 99.2° F.

December 29th: Two drops were injected, followed by a reaction to 100° F., which subsequently decreased to normal. The amount of urine excreted was increased after the two injections to 65 ounces.

An injection of 2 drops was administered January 2, 1891, followed by reaction to 99.8° F., and on January 4th, temperature, 99.2° F., after the injection; the quantity of urine excreted about these dates amounting to 82 ounces in twenty-four hours. Injections of 2 drops gold and manganese liquid were given January 6th, followed by rise of temperature to 100.2° F.; January 8th, with temperature curve 100.6°; January 9th, with a reaction of 100.4°; January 11th, 99°. All of these injections were administered when the temperature was about normal, or not exceeding 99° F. The body weight January 5th was 111 pounds, and on January 14th 112 pounds. The urine excreted at this time did not exceed 44 ounces a day.

Injections of 1½ drop were given January 13th, 15th, 18th, and 21st. No reaction of any note resulted till after the last injection, when the temperature became elevated to 101.8° F. On this date the body weight had increased to 114 pounds, and the patient declared his cough and expectoration was lessened and his appetite much improved. The excretory function of the kidneys was stimulated again so that about 64 ounces of urine were passed in twenty-four hours.

January 23d: One and a half drop was again injected, the patient's temperature being normal at the time, and a reaction to 100° F. followed, subsequently declining to normal and again rising to 99.4° F. after injections of same dose January 25th and 27th. On the 29th the temperature was 99° F. at the time of an injection of 1½ drop, and four hours after there was a reaction to 100° F. Excretion of urine on this date was 32 ounces per day. Body weight, 115 pounds.

February 1st: Injection of 1½ drop. Temperature rose from 98.8 F. to 101.6 F.

February 3d, 5th, and 7th the injections were continued, followed by no marked reaction. Body weight increased to 119 pounds, with pulse, 84; respiration, 28; and evidences of general amelioration of his condition quite manifest. Cough and expectoration much reduced.

February 11th: Body weight increased to 121 pounds. Urine now free from albumin and casts, and amount excreted in twenty-four hours averaging 55 ounces. The gain in weight of this patient was from 113 to 123 pounds in ten weeks' treatment.

Case V. *Phthisis Pulmonalis.*—Patrick McC——, aged twenty-nine; single; United States; driver. Admitted to hospital November 24, 1890. Family history: Father died of pneumonia. In March, 1890, had hæmoptysis, followed by cough, night sweats, and loss of flesh and strength. Dry pleurisy in August. Now has poor appetite and sleeps badly on account of cough and sweating. Sputum discoid and muco-purulent, and contains bacilli. Physicial examination shows consolidation at both apices, more marked on right side, with moist râles over both upper lobes.

Treatment was begun on January 9, 1891, at 10 A.M., by an injection of 2 drops of the gold and manganese solution. Patient's highest temperature, 100° F.; pulse, 88; respiration, 30. Body weight, 129 pounds. Temperature had commenced to rise at 12 M. (100.4° F.), and reached 102° F.; pulse, 96; respiration, 40, at 4 P.M., after which they gradually declined.

January 10th: An afternoon rise, reaching 102.6° F.; pulse, 96; respiration, 48 at 8 P.M.

January 11th. 10 A.M.: Injection 2 drops. Temperature, 100° F.; pulse, 104; respiration, 44. Temperature rose by 4 P.M. to 101° F., then declined. No accurate record of temperatures was kept again until January 20th.

January 15th: Patient received injection of 2 drops, and January 17th of 1½ drop. The quantity of urine, which had been heretofore between 30 and 40 ounces per diem, increased on January 20th to 84 ounces.

January 20th. 2 P.M.: Injection, 1½ drop. Temperature did not go above 99° F.

January 21st: Temperature commenced to rise by 10 A.M., and at 4 P.M. had reached 101.8° F. (pulse, 120; respiration, 40), then gradually declined. Body weight, 128 pounds.

January 22d: Similar rise of temperature occurred, commencing A.M., height reached at 6 P.M. 101.4 F.

January 23d: Similar curve. At 2 P.M. injection 1½ drop. Temperature, 101.2° F. at 2 P.M. Kept up until 6 P.M. From this time to February 4th the temperature range remained similar, being from normal to 100° F. in the morning, and rising to 101° to 101.4 F. between 4 and 8 P.M., whether injections were given or not.

Injections of 2 drops were given January 25th, January 27th, January 29th, February 1st, February 3d. The quantity of urine had decreased on January 27th to 48 ounces, and remained diminished at about that quantity. On January 30th the patient's weight was 127 pounds and he was sweating a great deal at night.

Patient subsequently left the hospital. Body weight being same as at first, 129 pounds.

Case VI. *Phthisis Pulmonalis.*—Owen B——, aged thirty; single; stableman. Admitted December 26, 1890. Family history negative. Health good until eight weeks ago, when he began to cough and shortly afterward to expectorate muco-pus containing tubercle bacilli. Sweats at night. Has lost flesh and strength and has poor appetite and pains in chest. Physical examination shows signs of consolidation at right apex, with pleuritic friction-sounds and râles diffused throughout right lung. Treatment was commenced on December 27, 1890. His weight at this time was 126 pounds. Temperature at 5 P.M., 99° F.; pulse, 100; respiration, 32; at which time an injection of 2 drops of the gold and manganese solution was given. At 9 P.M. his temperature was 101° F.; pulse, 92; respiration, 36.

December 28th. 5 P.M.: Highest temperature, 99.2 F.

December 29th. 3 P.M.: Injection of 2 drops. Temperature at that hour, 100.2 F. At 7 P.M. it had reached 101.8° F.; from which it slowly declined.

December 30th. 10 A.M.: Highest temperature, 100.6 F.; declining to 99.6° F. at 2 P.M. and rising again to 100.2° F. at 7 P.M.

December 31st: 5 P.M.: Injection of 2 drops. At 7

P.M., temperature, 101° F., remaining stationary until 9 P.M., then gradually declining.

January 1, 1891. 5 P.M.: Highest temperature 100° F.

January 2d: Morning temperature 100.2° F. at 8 and at 12 M. At 5 P.M. injected 2 drops. At 8 P.M., temperature, 101.2° F.

January 3d: Highest temperature, 99.6° F. at 8 P.M.

January 4th. 4 P.M.: Temperature, 100° F. Injected 2 drops at 5 P.M. Temperature at 8 P.M., 101.6° F.

January 5th: Temperature normal until evening, when it rose to 100.2° F. at 8 P.M. Patient's weight has now increased to 132½ pounds.

January 6th: Temperature commenced to rise at 2 P.M.; by 8 P.M. had reached 101.4° F.

January 7th. 4 P.M.: Temperature, 100.2° F. Injected 2 drops at 5 P.M. At 8 P.M., temperature 101.4° F.

January 8th. 8 P.M.: Temperature rose to 101° F.

January 9th. 10 A.M.: Injected 2 drops. Temperature rose gradually to 101.2° F. at 6 P.M., and remained high until next day, January 10th, falling at 12 M. to 100° F., and rising again to 102° F. at 8 P.M.

January 11th: Temperature still high, reaching 101.4° F. at 2 P.M., then slowly declining.

The injections were continued every second day, but the temperature not accurately kept again until January 20th. The patient's weight on January 14th had fallen back to 129 pounds, on January 20th to 125 pounds. The injections were continued with slightly smaller doses, 1½ drop every second day, the temperature ranging persistently higher (from 99° to 101.4° F.) until February 2d, when the patient left the hospital. His weight on January 30th was 121 pounds.

This case is reported especially to demonstrate the reactionary effects of the injections, which proved very characteristic. There was a remarkable general improvement and increase in the body weight, which, however, declined. This patient left the hospital, voluntarily, remaining away for two weeks, and when readmitted was found to have lost ground—to so great a degree that he never rallied, but died February 21st. His body weight increased from 126 pounds to 132½ pounds while under treatment, being at this time in good physical condition. For no apparent cause he began to gradually lose weight and left the hospital, remaining away about two weeks, with the result above noted.

CASE VII. *Phthisis Pulmonalis.*—J. P——, aged thirty-two; United States; single; newsdealer. Admitted October 23, 1890. Family history, negative. Six years ago had a pleurisy. Since then has never been free from cough. Sputum at beginning of trouble frothy, now muco-purulent. Hæmoptysis two years ago; none since. Has lost flesh and strength; has night-sweats; appetite poor; bowels regular; sleeps well. Treatment with injection began January 21, 1891.

Physical Examination.—Right side, anteriorly: Dulness on percussion over apical portion; dulness less marked lower down; decidedly dull percussion sound in the subaxillary. Posteriorly: Modified percussion sound in the subscapular region; clear at the base; marked flattening on right side of infra clavicular region.

Auscultation: Right side, anteriorly, moist râles in infra-clavicular region; feeble bronchial respiration; true respiratory murmur absent at base, with modified bronchial respiration; some moist râles and pleuritic friction-sounds all the way down. Posteriorly, harsh breathing; few moist râles; fremitus increased at base. Left side, anteriorly, percussion-note modified at apex; more marked dulness extending down to base. Loud moist râles with hoarse bronchial breathing all the way down from apex to base. Posteriorly, some coarse râles and a few fine râles heard in subscapular region, and friction-sound over lower lobe.

February 11th: Has gained three pounds in weight; cough better; no night-sweats; sputum less in quantity and quality; sleep and appetite improved; tubercle bacilli found in sputum.

Tabular Record of Case VII.

Day.	Hour.	Temperature.	Pulse.	Respiration.	
		°			
1891.					
January 21 ...	10 A.M.	100.2	82	32	
	2 P.M.	101.6	80	28	Injection, gt. jss.
	6 P.M.	99.0	80	32	Body weight, 125 pounds; urine, 28 ounces.
January 22 ...	8 A.M.	99.4	80	28	
	12 M.	99.0	84	32	Urine, 28 ounces.
	6 P.M.	99.8	80	32	
January 23 ...	8 A.M.	98.0	78	32	
	2 P.M.	98.6	80	30	Injection, gt. jss.
	6 P.M.	98.4	76	32	Urine, 30 ounces.
January 24 ..	8 A.M.	99.2	72	36	
	12 M.	99.0	78	34	Urine, 32 ounces.
	6 P.M.	98.4	76	30	
January 25 ...	8 A.M.	98.2	72	32	
	12 M.	98.6	76	32	Injection, gt. jss.; urine, 32 ounces.
	6 P.M.	99.0	78	32	
January 26 ...	8 A.M.	98.0	76	32	
	12 M.	98.0	78	32	Urine, 34 ounces
	6 P.M.	98.4	76	32	
January 27 ...	8 A.M.	98.0	76	32	
	12 M.	98.0	72	30	Injection, gt. jss., at 5 P.M.
	6 P.M.	98.4	74	28	Urine, 44 ounces.
January 28 ...	8 A.M.	98.0	64	28	
	12 M.	98.4	68	30	Urine, 36 ounces.
	6 P.M.	98.6	74	30	
January 29 ...	8 A.M.	98.0	74	32	
	2 P.M.	98.6	76	30	Urine, 42 ounces.
	5 P.M.	99.0	74	32	Injection, gt. jss.
January 30 ...	8 A.M.	98.6	80	28	Body weight, 126 pounds.
	5 P.M.	99.0	100	32	Urine, 44 ounces.
February 1 ...	8 A.M.	98.4	76	34	
	2 P.M.	98.6	80	30	Urine, 48 ounces.
	5 P.M.	98.4	76	32	Injection, gt. jss.
February 2 ...	8 A.M.	98.0	80	32	
	2 P.M.	98.4	76	32	Urine, 50 ounces.
	5 P.M.	98.8	76	32	
February 3 ...	8 A.M.	98.2	80	30	
	2 P.M.	98.4	80	32	Urine, 46 ounces.
	5 P.M.	99.0	84	34	Injection, gtt. ij.
February 4 ...	8 A.M.	98.0	76	28	
	2 P.M.	98.0	80	30	Urine, 44 ounces.
	5 P.M.	97.8	76	28	
February 5 ...	8 A.M.	98.0	76	32	
	2 P.M.	98.0	72	28	Urine, 40 ounces.
	5 P.M.	98.2	72	28	Injection, gtt. ij.
February 6 ...	8 A.M.	98.4	68	28	Body weight, 128 pounds.
	2 P.M.	98.4	80	32	Urine, 44 ounces.
	5 P.M.	98.6	84	32	
February 7 ...	8 A.M.	98.0	78	34	
	2 P.M.	98.6	80	32	Urine normal.
	5 P.M.	98.6	78	32	Injection, gtt. ij.
February 8 ...	8 A.M.	98.0	76	28	
	2 P.M.	98.0	78	32	
	5 P.M.	98.4	72	32	
February 9 ...	8 A.M.	98.0	72	28	
	2 P.M.	98.4	78	30	
	5 P.M	98.4	78	32	Injection, gtt. ji.
February 10 ..	8 A.M.	98.0	78	28	
	5 P.M.	99.0	88	32	Urine, 32 ounces.
February 11 ..	8 A.M.	98.4	72	28	
	5 P.M.	98.2	80	32	Body weight, 128 pounds; an increase of 3 pounds to date.

CASE VIII.—A. S——, female, native of England, aged twenty-five; married; domestic. Admitted to hospital September 24th, 1890. Family history negative. Personal history: Has had measles, chicken-pox, scarlatina, and pneumonia. Since an attack of La Grippe about a year ago has had a cough, growing progressively more severe; has had three hemorrhages; sweats at night, and has lost flesh and strength. Expectoration muco-purulent, containing tubercle bacilli. Sleeps poorly and has no appetite. Physical examination showed signs of consolidation at the left apex.

Treatment begun on December 31st, 1890. Injected 2 drops gold and manganese solution at 5.30 P.M. At 7.30 P.M., temperature, 101.8° F.; pulse, 99; respiration, 30.

January 1st, 1891: Highest temperature, 99° F. at 1.30 P.M.; urine, 12 ounces; sputum, 2½ ounces.

January 2d. 5 P.M.: Injected 2 drops. Temperature, 100.4° F.; pulse, 88; respiration, 40. 7 P.M.: Temperature, 102° F. (highest); urine, 22 ounces; sputum, 14 ounces.

January 3d. 7 P.M.: Temperature, 101° F. (highest).

January 4th: Urine, 16 ounces; sputum, 3½ ounces. Highest temperature, 101.8° F. at 11 P.M.

January 5th. 3 P.M.: Temperature, 99.2° F.; pulse, 88; respiration, 32. Injected 2 drops at 7 P.M. Temperature, 101.1° F.

January 6th. 9 A.M.: Temperature, 97.8° F.; at 7 P.M., 102.2° F.; urine, 38 ounces; sputum, 8½ ounces.

January 7th. 9 A.M.: Temperature, 97.4° F.; 5 P.M., 99.4° F.; injected 2 drops. 11 P.M.: Temperature, 101.2° F.; urine, 57 ounces; sputum, 4½ ounces. Body weight, 107 pounds.

January 8th. 9 A.M.: Temperature, 97 2 F.; 9 P.M., 100.4° F.

January 9th. 9 A.M.: Temperature, 97.2° F. Injected 2 drops at 10 A.M. 7 P.M.: Temperature, 100.6° F.; urine, 40 ounces; sputum, 2 ounces. Marked decrease of sputum, with lessening of cough. For the next week the temperature ran from 97° to 99° F. A.M., and from 99° to 102° F. P.M.

Injections of 2 drops were made on January 11th and January 13th. After this date a new solution, twice as strong as the first, was used—*e.g.*, 1 drop of No. 2 equals 2 drops of No. 1.

January 12th: Amount of urine, 70 ounces; sputum, 1 ounce.

January 13th: Urine 31 ounces. From this time until January 20th the treatment was carried on in a similar manner, 1 drop of the stronger solution being used. The temperature ran about the same.

On January 20th, injected 1 drop; January 21st, 1½ drop; January 22d, 1½ drop; January 23d, 1½ drop. The temperature rose on the evening of January 22d to 102.4° F., and remained high all the next day, 100.4° F. at 9 A.M., and reaching 104° F. at 9 P.M. January 23d. Sputum, 4 ounces; urine, 45 ounces.

On January 24th no injection was made; but the temperature remained high all day, reaching 103.2° F. at 7 P.M.

On the morning of January 25th temperature had fallen to 99° F.; so an injection of 1½ drop was given. Temperature rose P.M. until at 9 P.M. it was 104.4° F.; pulse, 110; respiration, 40.

On January 26th and 27th temperature had fallen to normal in the morning, but ran high in the evening; 103° F., January 26th, and 102.4° January 27th.

January 28th: Injected 1½ drop; but none given again until February 1st, as the temperature ran high, reaching 102° F. in the evening.

February 1st. 11 A.M.: Injected 1½ drop. Temperature reached 101.4° F. at 3 P.M., and then declined.

February 3d. 2 P.M.: Injected 2 drops (strong solution), with little or no reaction. Temperature, 100° F. at 6 P.M.

February 5th and 7th: Injections of 2 drops, with no appreciable reaction; evening temperature varying between 100.4° F. and 101.4° F.

February 8th. 5 P.M.: Injected 2 drops. 9 P.M.: temperature, 102.6° F.; urine, 80 ounces; sputum, 1 ounce.

February 9th. 3 P.M.: Temperature, 101° F. (highest).

February 10th: Injected 2 drops. At 6 P.M., temperature, 101.4° F.

February 11th: Highest temperature, 101.2° F. at 6 P.M. Body weight, 106 pounds. Sputum reduced in quantity from 14 ounces to 2 ounces to-day, and cough not so severe. Appetite better, rests better, and sweats have disappeared. Is able to get about now, which formerly could not do. Body weight, February 20th, 110 pounds, being a gain of 4 pounds from February 3d, before which time she lost in weight one pound (between January 7th and February 3d).

The following cases of phthisis treated with the Koch lymph are added for the purpose of comparing the results with those of the cases already cited under the treatment of gold and manganese injections. The reactionary effects of the two remedies will be found strikingly similar in other particulars besides the temperature curve.

Case I. — T. M——, aged twenty-six; Ireland; widower; framer. Admitted to hospital January 26, 1891. Father died of phthisis, also a cousin. Has been very subject to colds and exposed to inhalation of fine dust from the nature of his occupation. About five years ago had pains in chest and head, and spat up blood, which latter symptom recurred two years later during a paroxysm of coughing. Since that date he began to lose flesh and strength, and about a year ago was obliged to give up work on account of constant cough, dyspnœa, and debility. Expectoration purulent and contains bacilli of tuberculosis.

Physical examination reveals diminished expansion over left chest and at right apex. Dulness on percussion over both apices. Right side, anteriorly: Bronchial breathing and bronchophony down to fourth rib. Posteriorly, left side: Prolonged high-pitched expiration and a few crepitant râles over apical region. Patient complained during treatment of some chilly sensations, but thought the cough and expectoration lessened under treatment.

January 27th, 5 P.M., received first inoculation, 0.001 milligr. Temperature, 98.2° F.; pulse, 78; respiration, 26. The temperature declined to 97.2° F. at 1 A.M., after which it gradually increased till at nine o'clock, January 28th, it reached 102.2° F., and gradually subsided. The reactionary effects grew less and less after each inoculation; the temperature, however, following the inoculations was always higher than it was on the days the inoculations were not made. Body weight January 29th, 125 pounds; January 30th, 124 pounds; February 7th, 125 pounds. Urine and sputa at first increased, afterward decreased in quantity.

Case II.—P. C— , aged twenty; single; Ireland; moulder. Admitted to hospital December 13, 1890. Family history negative. Exposed to much dust in the prosecution of his occupation, and has been very intemperate. Began to cough about two years ago, and gradually lost flesh. In August, 1890, had a hemorrhage while coughing violently, and since then has steadily lost flesh, and suffers from increased dyspnœa. About six weeks ago had another attack of hæmoptysis. Expectoration profuse and purulent, in which are found tubercle bacilli.

Physical Examination. — Dulness on percussion infraclavicular region right side, also marked posteriorly subcapsular region. Modified percussion left apical region. Bronchial breathing, subcrepitant râles, and pleuritic friction-sounds over right upper lobe, and loud, moist râles at left apex.

January 27th, 5 P.M., first inoculation, 0.001 milligr Temperature. 98.2° F.; pulse, 90; respiration, 28.

January 28th, 11 P.M., temperature reached its maximum, 101° F.; pulse, 88; respiration 26.

January 29th, 5 P.M., temperature was 100.4° F.; pulse, 92; respiration, 20; and at 11 P.M., temperature, 100 F.; pulse 104; respiration, 24. Highest points reached by temperature curve were February 3d, 1 P.M., 103.2° F.; and February 4th, 102.4° F., at 7 A.M., both occurring within twenty hours after inoculation. Body weight, December 29, 1890, 134½ pounds. January 31, 1891, body weight decreased to 121½ pounds.

Case III. R. D——, aged thirty-three; Ireland; single; laborer. Admitted to hospital January 26th, 1891. Family history negative. Body weight, 124 pounds. Last autumn had a chill, followed by cough and expectoration with loss of strength and flesh. Has night-sweats and expectorates muco purulent sputa, which on microscopic examination revealed tubercle bacilli.

Physical Examination.—Diminished expansion on right side, infra-clavicular flattening on left side. Dulness on percussion over both apices, extending down to the third intercostal space on left side anteriorly and the fourth intercostal space anteriorly on the right side.

Auscultation: Bronchial respiration and bronchophony over both apical regions with subcrepitant and loud mucous râles over left infra-clavicular region and some coarse râles over right apex.

January 27th: Gave first inoculation of parataloid, 0.001 milligr.

January 28th: Complained of malaise with increased cough and expectoration. Urine diminished. Temperature gradually increased, reaching its maximum at 11 A.M.,

103.7° F.; after which it declined, with chilly sensations.

January 29th. 11 A.M.: Temperature, 100.3° F.; and gradually became elevated until at 5 P.M. it reached 102.7°, and 103.4° F. at 12 midnight.

January 30th. 8 A.M.: The temperature reached 102.2° F.; declining to 101.8° F. at 5 P.M., when the second inoculation was given of 1 milligr.

February 1st. 8 A.M.: Temperature, 101.8° F.; 3 P.M., 101.3° F.

February 2d. 8 A.M.: Temperature, 102.7° F., after an inoculation of 1 milligr. the day before. Inoculations of 1 milligr. were administered and at stated intervals followed by more or less febrile reactions, but of less intensity than at first.

February 27th. Body weight fell to 113½ pounds, and the patient manifested every indication of failing vitality.

March 3d. Two and a half milligrammes of parataloid were administered, the temperature at 5 P.M. reaching 101° F.

March 4th, 9 A.M. The patient became delirious at 4 P.M. Temperature reached 103° F.; which gradually declined. Treatment with parataloid was discontinued, but meningeal complication did not abate up to the time of the patient's death March 6th.

This patient's temperature was elevated on the days no inoculations were made, but increased somewhat on the days that they were administered, though not uniformly. In some instances the temperature curve reached a subnormal degree before it became elevated, an effect which I have also observed from the use of the gold and manganese fluid.

The percentage of cases benefited under the treatment with parataloid has not been proportionate to those under the gold and manganese treatment, though no partiality was shown in accepting the cases for either method.

Concluding Remarks.—The cases treated at the hospital were not selected, but subjected to treatment as they presented and expressed a desire to receive the injections. All were very much reduced physically, and manifested extensive pulmonary lesions. The nutrition uniformly improved—in some of the cases the expectoration was remarkably decreased—especially reduced in Case VI., A. S——, where the amount was lessened from fourteen ounces to one ounce in twenty four hours, though at first it was slightly increased. The rapid gain in body weight in several instances was remarkable, following improvement in the appetite and the functions of digestion and assimilation.

The improvement in the respiration does not appear so readily as the other indications of benefit, though cough and expectoration are soon lessened, fewer râles and less pronounced dulness over affected areas are evidences of amelioration which are not long to supervene.

In some of the cases a very pronounced reaction followed the injections, but it is desirable to avoid such effects as far as possible by moderate doses, for I believe the best therapeutic effects are assured when little or no very decided reaction is manifested.

The two private cases reported, both incipient cases of pulmonary tuberculosis, were not confined to the house during treatment, but attended to their daily avocations without any inconvenience. The general amelioration was prompt. Cough, expectoration, and throat irritation were entirely relieved after six injections in one and eight in the other case. Both immediately began to experience better appetites, and rapidly gained in body weight. This is the class of cases in which the most decided beneficial effects from the treatment may be expected.

Before these patients were subjected to this method of treatment, inhalations, sprays, etc., were tried for some time without effecting such relief of the throat irritation and cough, which, in so short a time, yielded to the hypodermic injections. I have many private patients under treatment progressing equally as well as those above cited.

In conclusion, I may now say that in my practice of over five hundred injections, there has neither resulted an abscess, nor even a trace of inflammation of the skin about the seat of the punctures, which I attribute largely to my antiseptic hypodermic syringe, described in the MEDICAL RECORD, January 31, 1891.

1013 MADISON AVENUE.

NOTES IN MEDICAL JURISPRUDENCE.

BY HENRY A. RILEY, ESQ.,

NEW YORK.

The Fayerweather Will Case.—The Fayerweather will has attracted more attention than almost any testamentary document of recent years, and this was largely due to the fact that the princely sum of over $2,000,000 was given to colleges and hospitals. The three executors were made residuary legatees, and when it was found that the estate to be divided between them would amount to about $3,000,000 the public supposed that there was some private agreement by which this immense sum would go to other objects than the making the executors millionnaires. This turned out not to be the case and the heirs began a contest.

This has, however, been interrupted by the sensational statement that the executors had made a deed of gift covering the vast residuary estate, retaining nothing for themselves except their legal fees.

The deed of gift is a long document and makes a large number of gifts to various educational institutions and hospitals.

Yale College is the largest beneficiary, and the $300,000 given by the will is increased so that it will probably amount to over $500,000.

The following hospitals were remembered in the original will as follows:

Presbyterian Hospital, New York	$25,000
St. Luke's Hospital, New York	25,000
Manhattan Eye and Ear Infirmary, New York	25,000
Woman's Hospital, New York	10,000
Mt. Sinai Hospital, New York	10,000

The deed of gift makes a number of new hospitals beneficiaries, besides giving additional amounts as follows:

Mt. Sinai Hospital	$15,000
Presbyterian Hospital	25,000
Woman's Hospital	200,000
Manhattan Eye and Ear Infirmary	25,000
New York Eye and Ear Infirmary	25,000
Manhattan Dispensary	25,000
Montefiore Home for Chronic Invalids	25,000
St. Luke's Hospital	25,000
New York Cancer Hospital	25,000
Society of St. Vincent de Paul	50,000

The only direction for the use of these sums is as follows: "Each of the gifts mentioned in the article is to be used for the endowment of beds or some other use which in the best judgment of the officers of the institution is best fitted both to be of the greatest service and at the same time best to perpetuate Mr. Fayerweather's memory."

It is not yet known what effect this deed of gift will have upon the contest, but it ought to put an end to it at once.

The Morris Plains Lunatic Asylum in Politics.—It is stated that the Morris Plains Lunatic Asylum is suffering from a severe attack of politics.

The New Jersey Legislature has just passed a law removing, without apparent cause, the present Board of Managers, but has not placed their successors in office, and as a result a number of patients who have been declared sane are unable to get a discharge. Superintendent Harris, of the medical department, has sent certificates of dismissal to Dr. James S. Green, of Elizabeth, the late vice president of the asylum, but he has declined to sign them because he says the legislature has terminated his connection with the asylum. The law requires his sig-

nature to the certificate before a patient can be discharged, and as he does not think he has power to act a number of persons are unlawfully detained.

The Tariff and the Lymph. — Assistant Secretary Spaulding has made a ruling that a parcel containing Professor Koch's lymph is properly subject to duty at the rate of twenty-five per cent. ad valorem under the provision for "medicinal preparations, including medicinal proprietary preparations."

Two bottles containing the lymph have recently been seized in this city because of non-payment of duty. They were sent by mail to physicians in this city.

It has been supposed that the lymph would be admitted free, but the Treasury authorities do not think the law will permit such admission. The price of the lymph is not high and the duty will not be burdensome in any case, though the delay in obtaining possession of the medicine may often be annoying.

The Responsibility for Defective Pavements.—The danger from defective sidewalks and the masses of ice or snow which careless lot owners may permit to accumulate makes the frequent decisions of the courts of much interest.

A recent case in New York in the Court of Appeals places the responsibility for accidents squarely on the city authorities, and removes it from the lot owners even when they are apparently negligent and an ordinance expressly makes it their duty to keep the sidewalks clear.

The charter of the City of Rochester imposes on each lot owner the duty of keeping his sidewalk in good repair, and the Superintendent of Streets can, after written notice to repair, make the repairs himself and collect the cost from the lot owner.

A person who was injured by stepping into a hole brought suit against the city, and recovered a judgment, which was paid. The lot owner was notified to defend the suit and was represented on the trial. Under these circumstances the city brought suit against the lot owner to be reimbursed for the amount of the judgment. The Court of Appeals says, however, that there is no liability on the part of the lot owner to reimburse the city. The grounds for this decision are of general interest and are stated as follows: "We have thus referred at length to many of the cases holding the non liability of the lot owners, for the reason that there seems to have been quite a common impression, in which judges and lawyers have shared, that abutting owners are in some way liable for damages occasioned from their neglect to keep sidewalks in repair when that duty is in any way enjoined upon them. It seems to us that there never could have been any logical cause for such impression, and it seems it has no foundation in the reported cases. Any other conclusion than that reached by us would, we think, be most unfortunate, as it would tend to relax the vigilance of municipal corporations in the performance of their duties in respect to the repair of streets and highways, and impose that duty upon those who might be utterly unable to discharge it. It would tend directly to demoralize the public service and lead to disorder, decay, and impassibility of the public highways."

Dressed Beef and Health Ordinances.—Virginia, not long since, passed an alleged health law, forbidding the sale of any meat slaughtered at places more than one hundred miles distant, unless such meat had been inspected and a fee of one cent a pound paid. The United States Supreme Court has just decided that the law is an illegal attempt to restrain trade, and is void. The claim that it was necessary as a health regulation was not regarded as worth considering. A similar law ran the gauntlet of the courts in Minnesota a short time since with a similar result.

Clothing and Disease.—A large amount of clothing is made in this city, mainly for the out of town trade, in tenement-house rooms which have acquired the title of "Sweaters' dens," from their filthy and crowded condition. It is claimed that much of this clothing comes from quarters where disease is rampant, and it is feared that the germs of such infectious diseases as diphtheria, smallpox, measles, scarlet-fever, etc., may be distributed through the country by means of clothing made where these diseases are prevalent. The Clothing Operatives' Union of Boston has sent an agent to this city to investigate the matter and see if the complaints about the dangerous character of the clothing are well founded. If substantiated an effort will be made to secure legislation on the subject.

Car Stoves and Accidents.—The recent terrible disaster in the tunnel leading from the Grand Central Depot, by which six persons were either crushed to death by the collision or else were burned by the resulting fire, will call renewed attention to the various devices for heating cars. The New York Legislature has passed a law requiring the removal of the stoves from passenger cars and the substitution of some other form of heating, but this law has been largely disregarded by the New York and New Haven Railroad, and a good many of its cars still have the death-dealing stoves.

It is quite likely that the inquest now in progress will throw the responsibility in part on the officials of the railroad, and if so it will be the duty of the District Attorney to bring the matter before the Grand Jury.

People must Use their Eyes.—Some curious cases get into the courts from the failure of persons to make good use of their eyes, but who hope, nevertheless, to make other persons pay them for the harm resulting. In a recent New York case a merchant had a heavy truck in one part of his store, and a customer following a clerk about, looking at goods, was injured. He brought suit against the merchant, but the Court decided against him, saying that the question to be decided was whether the mischief could have been reasonably foreseen. When such appliances are not placed so as to threaten danger to those visiting the store on business, and are in full sight, the merchant is not liable for accidents which result from carelessness and inattention to the surroundings.

There was a similar case not long since where a person brought suit because he stumbled against a figure on a stairway upon which clothing was displayed. In this case also the Court held there could be no recovery.

Accident Insurance and Paralysis.—A life insurance policy issued by the Pacific Mutual Life Insurance Co. provided that the amount of the policy should be paid in the case of accidental and violent injury where the claimant should "suffer the loss of the entire sight of both eyes or the loss of two entire hands, or two entire feet, or one entire hand and one entire foot." The insured was accidentally shot in the back, producing paralysis, so that he lost the use of the lower part of his body and of both feet. The company contested the case before a Wisconsin court, but was defeated.

The Court said that the loss of both feet was as complete as if they had been cut off and that the policy was broad enough to cover injuries of the kind mentioned.

Appendicitis in the Female.—As the result of personal observations Dr. Richelot presents the following conclusions: 1. On account of the proximity of the uterine annexes the diagnosis of appendicitis is more difficult in woman than in man. Suspicion is naturally aroused when the pain and induration are well up in the iliac fossa and entirely to the right, and should always be excited whenever the symptoms are markedly predominant on the right, even if there be evidence of lesions to the left; even if the pain be referred to the uterine annexes, and even if rectal and vaginal touch reveal induration at the right border of the uterus. 2. With the reserves already formulated surgical intervention should be bold and early. The prognosis of the disease left to itself is extremely grave. The earlier the operation the more it approaches in relative benignity the modern operations in the region of the uterus.—*L'Union Médicale.*

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & Co., Nos. 56 and 58 Lafayette Place.

New York, March 21, 1891.

THE TREATMENT OF PNEUMONIA.

We offer no excuse for again bringing to the attention of our readers the subject of the treatment of acute lobar pneumonia. This disease is still a reproach to our art, even more than so phthisis pulmonalis, and there is no subject which deserves more earnest study.

Dr. W. S. Fenwick, of London, has recently presented (*The Lancet*, January 31 and February 7, 1891) the results of the analysis of one thousand cases of pneumonia treated at the London Hospital, between the years 1880 and 1890. These thousand cases include only such as were in the hospital for more than twenty-four hours before a crisis or death occurred. The elimination of such cases was very proper, for forty-nine per cent. of them died, and a therapeutical study of them could have only a very negative and melancholy interest value. Dr. Fenwick begins by referring to that first principle in pneumonia therapeutics, the individualization of the cases. Venesection and tartar emetic, which would be death to most city cases, may be, he says, the most potent of all remedies in the rural districts. He divides his cases into the sthenic and asthenic. Under the sthenic cases he includes all in which the temperature averaged above 103° F., while in the asthenic cases the temperature ranged below this figure. He excludes all cases of secondary pneumonia. The sthenic cases, five hundred and two in number, appear to have been submitted to three kinds of treatment, viz.: 1. Cases in which the treatment consisted in the application of hot poultices to the chest, combined with the internal administration of various expectorant and tonic remedies. 2. Cases whose medicinal treatment consisted entirely of quinine in large doses. 3. Cases in which the disease was combated upon general antipyretic principles, similar to those employed in the treatment of other acute specific fevers.

With regard to the first form of treatment, some interesting facts are given bearing on the relations of the temperature and the mortality in these cases. In 324 cases the average temperature ranged between 103° and 104° F., and of these 60, or about 18.5 per cent., died. In 169 cases the average temperature ranged between 104° and 105° F., and of these 51, or thirty per cent., died. In 16 cases the average temperature exceeded 105° F., and of these 9, or 56.2 per cent., died.

A study of the time of death showed first, that during an ordinary attack of acute pneumonia death is most apt to supervene about the fifth day, *i.e.*, at the height of the fever; secondly, that after the eighth day the danger to life increases enormously with each day that the crisis is deferred; and thirdly, that the crisis itself is a period of very considerable danger.

With regard to the quinine treatment, it was found that this drug was given alone and in remedial doses in 52 cases. In the cases with a temperature varying from 103° to 104° F., nineteen per cent. died; of those with a higher temperature, twenty-five per cent. died. The results, therefore, were unfavorable to the use of quinine.

In both this and the first class of cases, the mortality exceeded twenty per cent.

The clinical histories showed that fatal failure of the heart was of frequent occurrence, and seemed to result from the sudden withdrawal of the stimulating action of the fever.

The antipyretic treatment by drugs alone was not employed in a sufficient number of cases to enable our author to draw any conclusions. In 26 cases the antipyretic treatment consisted in the use of ice-bags or Leiter's coils applied over the lung. Four patients died, or about fifteen per cent., and hence the conclusion is drawn that this treatment answered better than either of the two others.

The cold pack was used in 26 cases, with 4 deaths. Systematic sponging was used in 65 cases, with a mortality of only 12.8 per cent. The ice-cradle was used in 43 cases, with a mortality of only seven per cent. Naturally, in all the above cases stimulants, such as ammonia and alcohol, were given, as well as at times quinine.

Taken altogether, there were 108 cases treated by applications of cold in one form or another, with a mortality of ten per cent., as against twenty-three per cent. by other methods.

There were 285 cases of asthenic pneumonia so-called, or types in which the average temperature ran below 103° F. This form of pneumonia is the one which usually supervenes in the course of chronic disease, and its fatality is very great.

Among 240 cases treated by poultices, tonics, and stimulants, the mortality was from thirty to fifty per cent. Some evidence is presented to show that quinine is of value in this class of cases. Antipyretic treatment is, however, not only valueless but dangerous, as is also venesection.

The study of Dr. Fenwick's cases reveals the fact that the mortality of acute lobar pneumonia increases with the severity, and also with the mildness, of the fever. In other words, more deaths occur the more the temperature-curve tends to rise above or sink below an average of about 103° F.

Dr. Fenwick presents the results of two distinct methods of treatment. In the first the chief remedies were aimed at relieving the condition of the lung; and while stimulants were freely administered with the object of whipping up the flagging heart, the cause of its physical lameness was allowed to proceed unmolested. The result was that, among 552 cases so treated, the mortality exceeded twenty-three per cent., although alcohol was exhibited in no less than seventy per cent. In the second case a method of treatment was adopted with one special

object, to economize cardiac force by minimizing the injurious influences of fever. In 108 cases of similar severity to the foregoing, the treatment consisted in the systematic reduction of temperature by means of sponging or ice-cradling. Of this number only 45 (forty-one per cent.) received alcohol, and only ten per cent. died.

A very important point was brought out in connection with treatment at the time of crisis. It was shown that when special attention was paid to the danger attending this period not a patient died.

Dr. Fenwick's experience points to the importance of looking upon pneumonia not as a local disease of the lung, but as a specific fever, the lung disease being to it what the typhoid ulcer is to the fever in that disease.

VOLUNTARY PATIENTS IN HOSPITALS FOR THE INSANE.

SHOULD voluntary patients be received in hospitals for the insane? Dr. Ralph L. Parsons thinks they should, and in an able article printed in the February number of the *Journal of Nervous and Mental Disease* he sets forth his reasons. The patients are those who are near, but not yet across, the border line of insanity, those who are in the incipient stages, and those who are the victims of a habit. It is an undeniable fact that such patients can best be treated in an asylum, and yet to enter an asylum, as the laws of New York and many other States now stand, leaves an opprobrium that few dare to brave. To have voluntary patients with the certified insane elevates the hospital in the eyes of the public (it is something more than a "lunatic asylum" or "mad-house"); the discipline is improved; officials are more apt to be gentle and attentive to patients, and the patients themselves are improved by mingling with persons who are not insane. The objections raised against the admission of private patients are: first, lack of room; secondly, because a suspicion might exist on the part of the public to the effect that the alleged voluntary patients were, after all, detained against their will; thirdly, because the law is supposed to require the restriction. The objection of lack of room applies only to State hospitals. If these cannot accommodate more than the certified insane it is only just that voluntary patients be excluded. Private hospitals do and should be permitted lawfully to receive the voluntary patients. The second objection is a myth. No such suspicion has been expressed in the past, nor is it likely to be in the future. The legal penalties for the detention of uncommitted patients are such as to avert not only the fact, but the suspicion even of their detention. Massachusetts has a law permitting voluntary patients receiving care and treatment in hospitals for the insane, and according to Dr. Edward Cowles, Medical Superintendent of the McLean Asylum, since its enactment in 1880 it has yielded most beneficial results. "It has not only been a blessing to many patients who have gladly availed themselves of its benefits, but it has done good to the asylum itself in stimulating improvement in the care of all its patients." New York's law should be modelled after this one. Then patients who are in the early stages of insanity, when it is most amenable to treatment, would seek advice and treatment, and much suffering would be avoided.

OUR SUPERFLUITY OF HOSPITALS.

THERE has recently been a pretty decided expression of opinion to the effect that the business of building and endowing hospitals is rather overdone, and that more good can be done to one's fellow-man by endowing educational institutions. So far as this view applies to medicine it means that we need better doctors more than we need larger hospitals. It is always, and naturally has been, the case that vastly greater sums of money have gone to institutions for the care of the sick than to institutions for the education of those who will treat the sick. Yet it is evidently quite as important for the sick to have intelligent medical and surgical care as to have a good bed and board. We showed, in discussing this topic a year ago, that in the past fifteen years the number of hospitals in this city had doubled, while the population had increased about one-third. In two city institutions alone twenty-five thousand patients are treated annually. More than this, the amount of free work done in hospitals has increased ninety per cent. in the past decade alone. It looks, therefore, as though in time the hospital would be as much an enemy to the general practitioner as the dispensary.

We trust that our hospitals will be well supported, for they are needed, and the work they do is of incalculable value; but the thoughts of dying millionaires might be profitably attuned for a time to our colleges. It is impossible to educate medical students as they should be educated unless the college is endowed.

MURDER AND INSANITY.

A REMARKABLE case, with a remarkable termination, has just been upon trial at Buffalo, N. Y. A young woman, seventeen years of age, named Sarah McMullen, enticed two small children upon a trestle bridge and pushed them over, causing the death of one. The murderess afterward went to a lower bridge, eight feet above a creek, and jumped off into the water. She was easily rescued. The evidence showed that the murder was deliberately planned and was actuated apparently by jealousy; also that suicide was intended, but that the woman's courage gave out. The plea of the defence was insanity. It was shown that she had always been moody, was given to fits of dejection, and behaved at times unaccountably. The aunt to whom a farewell letter was written, gave several instances of insanity in the family. The witness's sister had been confined four times, covering a period of fifteen years, in the insane asylums at Buffalo and at Utica. A brother was in the county asylum, having previously been in the State asylum. He had been insane eighteen years. The witness's father, although never confined, had a delusion for many years, and lasting until his death, that his life was in danger. In his last sickness he was in constant fear of poison. The McMullen girl's mother was nervous, quick tempered, and hysterical, and her father—the witness's brother—was a hard drinker. The witness's father and mother were first cousins.

The jury rendered a verdict of not guilty on the ground of insanity, closing a case which, according to the daily press, has no modern parallel. While this is hardly true, it is remarkable that such a verdict should be given when the evidence showed that the girl must have known the

nature of her act; for she deliberately planned it, and carefully carried out all the details except that of her own suicide. Such a verdict shows that the courts are weakening a little in their adherence to the legal conception of insanity, and are coming over to the medical view of it. Courts have, heretofore, tried to determine whether the defendant knew the nature of the murderous act and was conscious of the difference between right and wrong. This has been the supreme test.

Medical men have held, on the other hand, that the main fact to decide is whether the patient has mental disease, and whether the criminal act was the result of such disease.

MEDICAL CO-EDUCATION.

One of our popular monthlies has taken the trouble to secure a discussion of the subject of the admission of women to the future Johns Hopkins Medical College. This seems like threshing old straw. The ladies have got the money and the Trustees have taken it and consented to co-education; and the boys and girls will be able to labor together. But the medical world has learned that the Johns Hopkins College which is to be cannot be a great one with the sum of money supplied to it, and hence the question of co-education there lacks some interest. The hospital is a very expensive one, but it is small, and does not furnish the clinical material necessary for a great school. The increasing endowments of the Colleges in New York, Philadelphia, and Boston are rapidly making these the real centres for the most advanced medical teaching, as well as the best original work. There are now better chances for women in this city than the proposed Baltimore institution can possibly pre sent.

The interest in medical co-education is, therefore, only a general one. The experiences of the past have not favored it; but perhaps at Johns Hopkins they can do better, especially if they give only the graduate studies and a laboratory course. The plan of taking young men and women at the age of eighteen and training them up together in medicine is dangerous and probably unwise.

QUARANTINE AT NEW YORK.

Mr. Henry D. Plimsoll, in a letter to the *Times*, calls attention to the antiquated system of admitting ships to the port of New York, and justly charges us with maintaining quarantine, "the offspring of ignorance," during this enlightened decade. Vessels arriving here after sundown must remain at anchor in the Narrows until the following day at sunrise, and, as the sun sets in midwinter at about 4.30 o'clock and rises about 7.30 o'clock, it follows that a detention of about fifteen hours may ensue, and this, says Mr. Plimsoll, in the present age, is just as absurd as the ancient system of forty days detention, as implied by the word quarantine, derived from *quarenta*, forty.

Medical science, he adds, in the two continents advances side by side, and the cable places them in immediate communication, so that any disturbance in the sanitary condition of any part of one of the continents is at once communicated to the other, and therefore can be specially guarded against.

Quarantine, in its original sense, has been abolished from all the countries of Europe except Spain and Portugal. For it there is substituted the system of inspection, and detention only of vessels with a foul bill of health, or containing persons suffering from infectious fevers. The New York quarantine is, of course, not a severe one, but it is annoying and unnecessary. We trust that Mr. Plimsoll's letter will set our authorities to thinking; it is not the first time this just complaint has been made.

News of the Week.

The Fourth Congress of the German Gynæcological Society will be held at Bonn from May 21st to the 23d.

A Medical College in Mid-China.—At Hang-Chow, in Mid-China, there is a large mission hospital under the charge of Dr. David Main. It was built expressly for the purpose in 1885. As the Chinese have no name for the hospital, the institution is commonly known as "The Universal Benevolent Healing Office." A medical class is in constant training at the hospital, and last year eight of the students "satisfied the examiners" at the end of a curriculum which, in one respect at least, would receive the approval of our own General Medical Council, inasmuch as it was of five years' duration.

We are Interested in learning from an English exchange that a Miss Clarissa Caldwell Lothrop, who was confined for two years in an asylum in Utica, United States, is forming an "Anti-Kidnapping and Lunacy Reform Union in America." The president is Mr. Bronson Murray, of New York, the secretary being Miss Lothrop herself; and the treasurer, Madame Demarest. From the complaints that reach us it seems likely that there will soon have to be formed a society for promoting the commitment of lunatics to lunatic asylums.

A Physician's Strange Will.—Dr. Charles F. Heuser, an eccentric physician living in Baltimore, has just died, leaving a will directing that within twelve hours after his death a surgeon should cut out his heart in the presence of witnesses, after which his body should be cremated and the ashes placed in little silver phials and distributed among his friends. The first part of the direction was carried out by an operation performed by Dr. Adolph Boehm, in the presence of a number of physicians and medical students, besides some friends of the dead doctor. The heart of the deceased was removed and then replaced in the body. The doctor's peculiar request was accounted for by his horror of being buried alive. It has been a family custom of the Heusers to have their bodies mutilated after death. Dr. Heuser, after his wife's death, drove a knife into her heart.

Parataloid is being used at several points in Chicago, but it is yet too early to state, with any degree of positivism, what the outcome will be. This much, however, has been noted at the Presbyterian Hospital, that upon cases of pulmonary tuberculosis of any considerable standing there has been no appreciable improvement. Lupus shows the most prominent favorable advancement, though a cure has not yet taken place. The effect upon tuberculous joints and glands is also, as yet, in the experimental stage.

A French Physician on occasions of state is entitled by law to wear a black gown of bolting cloth (*étamine*), the back and front of which are of crimson silk bordered with ermine; a black coat *à la Française;* cambric bands, and a cap of crimson silk with a border of gold lace.

Death of Hartnack.—The death is announced at Potsdam of the well-known optician, Professor Edmund Hartnack, with whose microscopes everyone is familiar.

Surgical Treatment of Cancer of the Liver.—Cancer of the liver, usually considered a perfectly hopeless disease, has been treated successfully by Terillon, who removed a cancerous mass from the left lobe.

Direct Application of Tuberculin to Pulmonary Cavities.—In a lecture delivered at Halle on February 18th, and published in the *Münchener medicinische Wochenschrift*, No. 8, 1891, Dr. Edmund Leser gives full details of two interesting cases in which he cut down upon, and laid open and emptied, large pulmonary cavities of tuberculous origin, with the object of treating the diseased portion of lung by the direct application of Koch's fluid. In each case the cavity was near the apex of the lung. Both the patients were adults. The results of the operation itself proved very satisfactory, and up to the date of the delivery of the lecture, the patients, it is stated, had improved very much. In the first case, a one per cent. solution of Koch's fluid was applied to the inner wall of the exposed cavity by means of a brush. In the second case, solutions of increasing strength were injected three times into the cavity. In both instances the application of the fluid was followed by well-marked febrile reaction, together with dyspnœa, pain in the affected region of the lung, and aggravation of the cough. There was also considerable increase in the amount of fluid secreted from the walls of the cavities.

The Medical Society of the Missouri Valley will meet at Omaha, Neb., March 19th and 20th. Papers will be read by Drs. A. F. Jonas, Omaha; J. M. Emmert, Atlantic; Flavel B. Tiffany, Kansas City; Donald Macrae, Council Bluffs; S. Stewart, Council Bluffs; J. E. Summers, Jr., Omaha; J. F. White, Council Bluffs; S. G. Gant, Kansas City; H. Gifford, Omaha; Rebecca Hanna, Red Oak; and J. P. Lord, Omaha.

Some Curiosities of Science.—The important fact is established that the electrical resistance of a mummy is 6,000,000 ohms. The cranial temperature of the citizens of Colorado is 1° F. higher than that of their less favored eastern brethren. The human race annually absorbs three million pounds of nicotin, one drop of which will kill a cat. A Birmingham gentleman carried a pea in his right ear for five years and seven months, when it was successfully removed by a general practitioner.

A Remedy for Phtheiriasis.—One of the best washes for the removal of the ubiquitous parasite from the hairy parts of the body, is a decoction of quassia to which a little borax and glycerine have been added.

The Influenza has reappeared and become very prevalent in Chicago. The Island of Sumatra is suffering in the same way. It will puzzle the demographer to find why these two places are selected for epidemic recrudescence.

An Insane Asylum Burned.—On March 14th the Central Insane Asylum of Tennessee was burned and six of the inmates lost their lives.

A Hydrophobia Scare.—Two persons were bitten by dogs alleged to be mad, in Orange County, N. Y. The bitten persons have come to New York to be treated.

Garfield Tea, so-called, is said to be composed chiefly of senna, fennel, marshmallow, and couch grass.

The Official Regulations as to the Sale of Tuberculin have appeared. The chemists are to obtain their supply from Dr. Libbertz, who will continue to prepare the lymph under the supervision of Professor Koch. It will be sold in sealed bottles containing from one to five cubic centimetres, and marked with the date of preparation. The chemists are to use the same precautions as with poison, and only to sell it in the original bottles and upon the written prescription of medical men. A special book is to be kept for the entry of sales, etc., and in each case the quantity sold, the date of preparation, of purchase, and of sale, and the name of the physician prescribing it must be noted. Six months after preparation the lymph may no longer be sold. Bottles six months old should be returned to Dr. Libbertz, who will exchange them for new ones without extra charge. The price has been fixed at six marks (6s.) for a cubic centimetre, and twenty-five marks (£1 5s.) for five cubic centimetres.

The German Congress of Internal Medicine.—The tenth annual meeting of the above Congress will take place at Wiesbaden from April 6th to 9th, under the presidency of Professor Leyden, of Berlin. The subjects for general debate are: 1. Biliary Calculous Disorders, to be opened by Dr. Naunyn (Strasburg) and Dr. Fürbringer (Berlin). 2. Koch's Remedy in Pulmonary Tuberculosis and other Internal Tuberculous Diseases. 3. Angina Pectoris, to be opened by Dr. A. Fraenkel (Berlin) and Dr. O. Vierordt (Heidelberg). The following is a list of the papers promised for the meeting: Dr. Kahler (Vienna): Intermittent Albuminuria. Dr. Mosler (Griefswald): the Treatment of Leukæmia. Dr. T. Schott (Nauheim): the Differential Diagnosis of Pericardial Exudation and Cardiac Dilatation. Dr. Knoll (Prague): (1) Disorders of Circulation; (2) Morbid Changes of Striped Muscle. Dr. Brieger (Berlin): Chemical Changes in Infectious Diseases. Dr. Rosenstein (Leyden): the Diagnosis of Hypertrophic Cirrhosis of the Liver. Dr. Quincke (Kiel): Hydrocephalus. Dr. Eichhorst (Zurich): Observations on the Patellar-tendon Reflex in Tabes Dorsalis. Dr. Edelfsen (Kiel): (1) the Origin of the Vesicular Murmur; (2) Varicella Statistics. Dr. Tappeiner (Munich): the Diuretic Action of Phenylmethyl pyrazolcarbonic Acid. Dr. Friedländer (Leipsic): (1) the Method of Mathematical Diagnosis of Acute Articular Rheumatism and of all forms of Central Rheumatism; (2) Etiology of Bright's Disease. Dr. Leubuscher (Jena): Clinical Researches on Acid Excretion in Mental and Nervous Diseases. Dr. Schmaltz (Dresden): Examination of the Specific Gravity of Human Blood, and its behavior in Anæmic Conditions. Dr. Mordhorst (Wiesbaden: Diagnosis and Treatment of Gout. The secretary of the Congress is Dr. Emil Pfeiffer of Wiesbaden.

An Inadequate Frontispiece.—In the sacred name of art, and on behalf of womankind as it blooms and fructifies in the sunny South, we wish to protest against the title-page of our picturesque contemporary, *The Dixie Doctor*. The said title-page contains the portraits of Drs. McDowell, Long, Sims, and Battey, each artistically delineated and set in the four corners, like the angels of the Apocalypse. Nobody can complain of such tribute to historic greatness. But in between these is the artist's conception of a doctor's office, with a desk, a doctor, and a lady. It is this Georgia simulacrum of the professional workshop with which we must, in the most amiable spirit, find fault. In the first place, we note that the doctor in the picture sits comfortably back in a cushioned chair, while the lady is obliged to sit *vis-à-vis*, on a hard-bottomed rectangular arrangement, to her most evident discomfort, and with the probable peril, in time, of gluteal induration and articulo-muscular overstrain. The situation of the lady is unjust to the chivalry of the South. Besides, the patient herself is not all our fancy has painted, or our vision realized, of the lovely types of womanhood which flourish among the cotton, the sugar, and the corn. We beg the artist to reconstruct his inadequate creation. Let him first see a real Southern doctor meet and treat his countrywoman, and he will blush at his performance.

The Number of Students in Paris.—With its five faculties and the High School of Pharmacy, the University of France counts in Paris more alumni than any other in the world. In 1890 there were no less than 10,174 students on the rolls, these figures including 986 foreigners, 759 of whom are studying medicine. In 1889 the number of students registered was 10,375. These figures do not include men pursuing their studies at the Collège de France, the Muséum d'Histoire Naturelle, the École de Chartes, and kindred special establishments.

Notice to the Military Surgeons of the National Guard.—Dr. Senn, of Milwaukee, Surgeon-General of Wisconsin, is desirous of obtaining the name and address of every military surgeon of the National Guard in the United States, for the purpose of taking the necessary preliminary steps toward the formation of a permanent national association.

Change of Time of Holding the Meeting of the National Association of Railway Surgeons.—On account of the meeting of the American Medical Association at Washington, D. C., on May 5th, and continuing to the 8th, it has been thought best, by the officers of the National Association of Railway Surgeons, to change the time of meeting from May 7th to April 30th. The meeting will be held at Buffalo, N. Y., beginning at 10 A.M., and continuing to May 3d. This change will give the surgeons who have a long distance to travel, an opportunity of attending both meetings on one trip.

The Seventh International Congress of Hygiene and Demography will be held in London, August 10 to 17, 1891. H.R.H. the Prince of Wales, K.G., will preside. The aim of the Congress is to awaken public interest in the progress of hygiene and demography, by which latter term is understood the study of the life conditions of communities from a statistical point of view; to afford persons interested in these subjects an opportunity of meeting, with the object of advancing their progress; and, by conferences and debates, to elucidate questions relating to hygiene, demography, and public health. The governments of all countries, municipalities, county councils, and other provincial administrations, public health authorities, universities, colleges, and all societies which are occupied in the study of the sciences more or less immediately connected with hygiene, are invited to co-operate and appoint delegates to represent them at the Congress. An exhibition of articles of hygienic interest will be held in connection with the Congress. Excursions will be arranged to various places of especial interest to hygienists.

Examinations for Appointment in Medical Department of the Army.—An announcement was recently made that an army medical board would be in session in New York City during April next, for the examination of candidates for appointment in the Medical Corps of the United States Army, to fill existing vacancies. At the time of that announcement there were only five vacancies to be filled. Recent Congressional legislation has, however, permitted the retirement of certain officers, so that there are now fourteen vacancies in the grade of assistant surgeon, with the probability that the number will be increased to seventeen by the time the examining board begins its labors. As already stated, persons desiring to present themselves for examination by the Board will make application to the Secretary of War, before April 1, 1891, for the necessary invitation, stating the date and place of birth, the place and State of permanent residence, the fact of American citizenship, the name of the medical college from which they graduated, and a record of service in hospital, if any, from the authorities thereof. The application should be accompanied by certificates based on personal knowledge, from at least two physicians of repute, as to professional standing, character, and moral habits. The candidate must be between twenty-one and twenty-eight years of age, and a graduate from a regular medical college, as evidence of which his diploma must be submitted to the Board. Further information regarding the examinations may be obtained by addressing the Surgeon-General U. S. Army, Washington, D. C.—C. Sutherland, Surgeon-General U. S. Army. Washington, D. C., March 4, 1891.

Doctors in the United States Senate.—The statement is made that Dr. J. H. Gallinger, of New Hampshire, is the first physician who has ever been elected to the United States Senate. This is a mistake. Maryland, Florida, and we believe other States, have elected medical men to the Senate.

Treatment of Red Nose.—When red nose is due to acne rosacea, Unna gives ichthyol internally, in doses of five grains, and prescribes at the same time lotions of the same substance in aqueous solution. At night, the following paste is applied to the affected organ:

℞. Sulphur. ..... ℥ss.
Rice powder ..... ʒiv.
Ointment of zinc oxide .... ℥v.
Mix, and make a pomade

If the patient is scrofulous or debilitated, he also orders cod-liver oil, syrup of iodide of iron, etc.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, March 5, 1891.

THE VICE-PRESIDENT, R. C. M. PAGE, M.D., IN THE CHAIR.

Donation of Furniture.—The following resolution was adopted:

Resolved, That it is the feeling of the Academy that the gift of the elegant and substantial platform furniture for Hosack Hall by the President, Dr. Loomis, should be noted in its records, and that its sincere thanks should be extended the donor.

A New Method for the Direct Electrization of the Stomach, with Demonstration.—DR. MAX EINHORN read the paper, which will appear in a future issue of the MEDICAL RECORD.

Laceration of the Perineum.—DR. HENRY J. GARRIGUES read the paper which dealt chiefly with the anatomy of the perineum and the parts involved in lacerations by the child's head. The common way of classifying perineal lacerations, he said, took only the extent of the tear into consideration. In his opinion this division, based on the degrees or extent of the laceration, overlooked the most important point. In a paper published in the *American Journal of Obstetrics* in 1880, he had called attention to the confusion arising from speaking of the canal leading up to the uterus simply as the vaginal canal, instead of taking note of the difference between the vulval portion and the vaginal canal proper, which was as marked as the difference between the body and the cervix of the uterus. The inner, the outer, and the vulval rings were the two places where laceration commonly began during childbirth. The upper ring, being the narrower of the two, was more frequently torn than the other. After mentioning the several muscles entering into the formation of the vaginal ring, the author emphasized the importance of the levator ani, which was by far the strongest. It formed a horse-shoe shaped muscular expansion which was open in front, and was generally described as two muscles, the levator ani proper and the coccygeus. Under all circumstances they formed together a pelvic diaphragm corresponding to that which limited the cavity above.

Regarding the perineal body, he said a great deal had been written about it, and different authors had assigned very different shapes to it, but a study of the pelvis showed that in different women a great variety of shapes obtained. Sometimes the whole space between the vagina and rectum up to the uterus formed a triangular sulcus; in some cases it could be distinguished as two spaces, upper and lower, the latter, however, then deserving alone the name perineal body. Small as the body was, it was of importance as showing the centre of the perineal region where the muscles and ligaments came together. It kept the vagina and rectum in proper relative position. During childbirth it formed a strong barrier against which the child was being pushed from above. During the act of expulsion its resistance was often overcome and laceration took place.

Besides the two rings already mentioned at the outlet and entrance of the vagina, a third one, formed by the internal and external sphincter ani muscles, must be taken into consideration. Its function was to close the intestinal canal. While the head was being pushed against the vaginal ring it might break through the rectum. Other forms were, a tear through the vaginal ring, a tear through the vulval ring, a tear through both vaginal and vulval rings, a tear involving the vaginal rings and sphincter ani; a nick involving the integument at the fourchette which readily healed if the muscles beneath were intact to hold the parts in apposition. The tears involving the muscular structure might take place when they were in a state of tension, without breaking the mucous membrane or integument. The usual direction of the tear involving the muscular rings was longitudinal, but the appearance after a time, owing to retraction of the muscular fibres, was as if a transverse tear had taken place.

Where all three rings were torn through, natural cures must be exceptional, and no man would wait. Where the primary operation had not been performed, the intermediary might be tried, although he had had little experience with it. A secondary operation would be necessary if neither the primary nor intermediary were resorted to. Of the secondary operations there were a great variety, and he would not enter upon a criticism of their respective value. In the incomplete tear, where the vaginal ring had not been much involved, Tait's flap operation was expeditious and could hardly fail. Where there was prolapse of the posterior vaginal wall he used Hegar's colpo perineorrhaphy with slight modifications of his own. For complete perineal lacerations he used the same author's method with slight modifications.

Old Ideas with a New Dress.—DR. THOMAS ADDIS EMMET said that apparently the author had given a great deal of study to the subject, but he must confess that from his stand-point he seemed under the influence of the older teaching, when men were misled in speaking of a perineal body. He believed that, until we dismissed the idea of a perineal body entirely we would not be able to understand the condition of things present in lacerations at childbirth. We should simply bear in mind the presence of a diaphragm which closed the floor of the pelvis, and exclude the term perineum. The so called perineum was simply a part and parcel of the muscular septum, with the addition of a little extra fat which lay between the rectum and vagina, and which was of little or no consequence. He would confine his remarks to the levator ani muscle, the transversus perinei, and the fascia. First, we must consider what was a laceration of the perineum. He believed the perineum was never lacerated except the sphincter ani was torn to begin with. It was an injury to the fascia in the pelvis which allowed the muscles to separate, the fascia to retract, and the final result was one of imperfect support of the blood-vessels in the pelvis. They became over-distended, and caused great suffering in walking. We had been taught that the perineum in some way or other supported the vagina and uterus, but to his mind this view was as absurd as would be the statement that the pantaloons were held up because they rested on the instep. It was a mechanical absurdity. The uterus was suspended, as was every organ in the body, from above. If it had only support from below the woman would not be able to walk at all. Twenty-five years ago, or more, he witnessed some dissections of the pelvis at Edinburgh which taught him the necessity for doing something more than simply bringing the vulva together in these cases of laceration.

The sulcus of the vagina posteriorly was formed of fascia continuous with the pelvic fascia above, which kept the posterior vaginal wall against the upper or anterior vaginal wall, the latter being as fixed, to all intents and purposes, as the roof of the mouth. Anything entering the vagina or passing out must do so by pushing back the posterior wall as it would the under jaw if it were a bolus of food. This fascia, which ran down alongside the vagina, and was in close connection with the tissue of the pelvis, was also reflected over the muscles at the vaginal outlet, bound them together in one common sheath, as it were, and passed over and fixed the neck of the bladder under the pubis. The muscles forming the pelvic diaphragm did not cross one another, but were kept together by the fascia. The head of the child coming down like a piston in a barrel, exerted force upon the posterior curve of the vagina, met resistance by the fascia binding together the muscles, and the first result when injury took place was separation of the fascia binding together the muscles on each side of the vagina.

That part which was called the perineum served no purpose beyond that of giving proper support to the sigmoid curve of the rectum. When it was torn apart in the manner just described the anus was drawn farther back toward the coccyx, the sigmoid flexure became exaggerated, forming a rectocele, and then a cystocele came with it. The direct result of this was engorgement of the blood-vessels which should get support from the connective tissue. When the woman had remained a long time in this condition it became impossible to clear the vessels, and they became great receptacles for blood.

He repeated that when the perineum was injured the tear began far back by the rectum, long before it reached the vaginal outlet, or where there was any body or fourchette. That he was correct in his view was shown by the fact that where there was only a tear in the so-called perineal body, directly in the median line, the woman did not suffer; she could go on working at the washtub, and found no inconvenience except from want of control of the fæces. The blood-vessels had not been injured or deprived of their natural support. The worst tears were often unaccompanied by any lesion of the mucous membrane or integument at the fourchette.

Dr. W. M. Polk remarked that there seemed to be a greater difference of opinion regarding this little body than almost any other of equal importance, and he inferred from that that there was yet a great deal to be learned about it. He had constructed a theory of his own, which seemed to be the privilege of every man who had to do with this region. From a surgical stand-point, he thought most theories regarding the perineal body took into consideration too many elements, which lent obscurity. He thought that if we looked upon it as a diaphragm limiting the lower part of the abdominal cavity, it would do a great deal toward simplifying the question. If we regarded it as possessing the same relations to the abdominal contents as other portions of the abdominal walls, namely, serving to maintain them in their normal relations, he thought we would have gained a better appreciation of its function and the necessity for its repair. When it gave way, we had a hernia, and nothing more. This should be viewed as one would view a hernia in any other part of the body. For practical purposes, he thought we could ignore everything except the levator ani muscle and the fascia belonging to it. It was an important fact, as previous speakers had stated, that this muscle could be separated without any very prominent external lesion. The question of repair was simply one of restoring the structures as nearly as possible to the condition which they were in before the injury. He thought we could do no better than follow the same principles which applied to hernia in other portions of the abdomen. If the immediate operation could not be performed, he thought little of the intermediate, since retraction of the tissues took place even within forty-eight hours. In the secondary operation he followed the principles involved in Tait's operation and Marcy's method of Boston, bringing together successive layers of torn structure as nearly as possible.

Dr. W. Gill Wylie joined Dr. Emmet in criticising the paper as seeming to take the old view when speaking of a perineal body. It seemed to him Dr. Emmet's illustration of the separation of a curtain was much more appropriate than to talk about a body in the centre, called the perineal body. He had expressed the view in a paper six years ago that the levator ani was the important part, and if an immediate operation could be performed, almost anyone of the usual procedures would do, but greater difficulty existed after atrophy had taken place. He thought the prolapsus of the rectum was due to pressure of fecal matter, and with it there followed displacement of the uterus. He had described his method of operating many years ago, the important feature of which was to restore the sphincter ani and throw back the rectocele.

Dr. A. F. Currier bore in mind the principle in treatment to restore the parts, as far as possible, to their normal relation, and, in general, Tait's operation fulfilled this indication better than any other.

Dr. Buckmaster thought Dr. Wylie had to some extent put the cart before the horse when he stated that Dr. Emmet considered the rectocele was due to over-distention of the blood-vessels. Dr. Emmet considers this condition of over-distended vessels to be due to the tearing loose of the fascial sheaths which hold the muscles of the pelvic floor in place and support the connective tissue, which in turn supports the blood-vessels.

As to the tissues involved in the injury the following experiment will help to make this matter clear. The rectum of a multiparous woman felt through the vagina appears not unlike a segment of thick rubber tubing. The only cause for this rigidity is the fascia which is reflected from the levator ani sling to its sides, and bearing this in mind the tears can be readily recognized. We have given up trying to obtain a firm abdominal wall by the union of the muscle after a laparotomy because to expect muscle to sustain continuous strain is not only opposed to physiology but because we have found practically that no muscular support is of any avail without a backing of fibrous tissue.

Having recognized the many degrees and kinds of injury he believed the so-called Tait's operation a poor method of repair. He claims among its special advantages that no harm is done if it fails. The writer had seen a woman, where the operation had failed, with two large sulci (the remains of the incisions) that allowed everything to fall away. The denuding operation can be repeated as well as this flap splitting. The Tait operation crowds back a lot of tissue which atrophies, and the method is a clumsy one compared to that of Emmet, which when done intelligently will meet every indication that can be met which arises from injury to the pelvic floor. All operations will fail to cure a limited number of cases.

Dr. Garrigues closed the discussion. He thought that instead of representing the old time teaching, he represented a newer time than Dr. Emmet's. It was true Dr. Emmet had called attention to the importance of the tear at the vaginal ring, but he attributed the lesion to a tear of the fascia, and he had repeated this evening again that when the levator ani was broken it was the fascia which had torn apart. This, in the speaker's opinion, was a mistake. The fascia was a hard connective tissue, with scarcely any elastic fibres in it, and would be the last to tear apart, whereas it was an inherent quality of muscular tissue to retract when it was torn. He claimed that the tear was in the levator ani muscle, that it almost always took place in a longitudinal direction. We could not readily drop the anatomical terms perineum and perineal body. He had never said the uterus should be held in place by this body; it was well known to be held by the uterine ligaments. It was going too far to say the perineum was never torn except the levator ani were torn, for while he had placed great stress upon the importance of the latter, yet he had been able to demonstrate its entirety in one case in which the partition was torn to such an extent that a rent could be felt an inch and a quarter up the rectum. It was important to recognize the fact mentioned by Dr. Currier that one could not unite structure to structure exactly when they had long been separated. We must bring together what we could, yet the result could not be compared to that following immediate repair.

SECTION ON GENERAL MEDICINE.

Stated Meeting, February 17, 1891.

Francis Delafield, M.D., Chairman.

The Value of Subcutaneous Administration of Gold and Manganese in the Treatment of Tuberculosis.—Dr. John Blake White read a paper on this subject, a report of which appears on page 338.

Dr. James R. Leaming said there was plenty of room for work in connection with the treatment of phthisis,

and he welcomed all honest efforts in this field. We were still waiting for more light, and we certainly needed all that we could get.

Dr. S. Henry Dessau said that he had seen some of Dr. White's cases, and from one of them particularly he had had the personal testimony of very decided improvement in a short space of time. The method advocated by Dr. White had excited much attention in another society to which both Dr. White and himself belonged, and all its members were watching with much interest for the report of further results. It was only fair, it seemed to him, that the plan should be given a trial for a sufficient length of time to enable one to form some estimate of its real value.

Dr. Henry S. Harris said that while he was on the same service at Charity Hospital as Dr. White, and had seen most of his cases, he had himself had the opportunity of trying this treatment in only one case, and that was one which was not at all well suited for injections in any way. The patient was a female, and on January 7th he made the first injection with one drop of a two per cent. solution of chloride of gold and iodide of manganese. The only improvement that he had noticed was a slight gain in weight, and when he made an examination of the patient to-day he found that the area of disease had rather increased than diminished since the treatment had been commenced. Still, she stated that she felt better, and that both cough and expectoration had diminished. The conditions under which the woman was living, however, were so unfavorable as to make her case a very unsatisfactory one in which to make trial of the method. In Dr. White's cases he had personally noted the general improvement which had been described in the paper.

Dr. Grinnell said, that while he was more familiar with the Koch treatment than with Dr. White's, he had had some experience with the latter. Up to the present time, however, he had not been impressed with the great value of either one of these methods, though it was, of course, desirable to have a more extended series of observations before arriving at any definite conclusion.

The Chairman said that one seemed to be still as much in the tentative stage of the treatment of tuberculosis as ever. He was therefore always glad to hear of conscientious work in any new direction, and he trusted that Dr. White would go on with his investigations until the method advocated by him had been thoroughly tested.

Dr. W. C. Jarvis said that he could vouch for the correctness of Dr. White's statements in regard to the remarkable manifestations seen after the gold and manganese injections. This reaction closely resembled that observed when the Koch method was used, and it was the opinion of the House Staff at Charity Hospital that it was difficult to distinguish between the two. The improvement in some of Dr. White's cases was marked, and the effects of the treatment, he believed, were not in any way excelled by those of the Koch method.

Dr. White, in closing the discussion, said that the treatment described he advocated not as a specific for tuberculosis, but as an adjuvant to other treatment. In connection with this remedy, however, he believed that other treatment would be found to be more advantageous. Up to the present time he had seen no bad effects whatever from the use of his injections, and there had been no case of abscess or any serious local irritation resulting from them, although some of the patients had received as many as twenty-eight or thirty injections.

Cough: Its Uses, Significance, and Indications.—Dr. James R. Leaming read a paper on this subject which appears in full on page 336.

Hot claret is said to be an excellent gargle in acute sore throat, being an agreeable astringent and non-poisonous.

Clinical Department.

NOTES ON "ACID DYSPEPSIA."

By GEORGE HASLAM, M.D.,

FREMONT, NEB.

It is no uncommon occurrence for a patient to consult his physician for "acidity of the stomach." Such patients are usually young or middle-aged adults who otherwise enjoy perfect health. On questioning the patient one learns that many of them can overcome the "heartburn" by taking a small portion of food, and that the relief thereby afforded lasts for a longer or shorter period, varying from a few minutes to an hour or more; others obtain temporary relief by the use of various alkalies. Such symptoms are frequently accompanied by constipation, but sometimes by a slightly relaxed condition of the bowels. It is very seldom that such a patient is emaciated. On the contrary, he frequently has the expression and color of perfect health. In such cases the stomach-contents were found to be very acid, and to contain an excess of hydrochloric acid. Gastric digestion was, in the majority of cases, well and quickly performed, but after the food had disappeared the stomach still contained a larger or smaller quantity of a clear, slightly mucous, very acid fluid.

On thinking the subject over I concluded that the symptoms were due to an excess of hydrochloric acid being present, and reasoned that if the hypersecretion of acid could be inhibited most of the distressing symptoms might be prevented. It then occurred to me that by stopping the supply of sodium chloride this object might be attained; this conclusion was further strengthened by finding that many such patients were in the habit of indulging very freely in table salt. My experience with many cases confirms this conclusion; cases of long standing have been perfectly relieved by simply abstaining from salt, that is, they ingest no more than is supplied by the ordinary cooking processes.

Such cases being always office patients I have been unable to investigate the fæces. I am, however, inclined to the opinion that in such cases as are attended with laxity of the bowels the acids of the stomach are more than sufficient to neutralize the alkaline secretions of the pancreas, liver, and small intestine. As far as I am aware, abstention from salt has not been previously recommended with the object of directly influencing the secretion of the hydrochloric acid, the prohibition of condiments being recommended merely on general grounds.

It may be answered that "acid dyspepsia" is due to the presence of lactic, butyric, and perhaps other organic acids produced by bacterial fermentation. I can so far only reply that these remarks are the results of a clinical experience, and that no treatment, including lavage with antiseptics, has given any other than very temporary alleviation. Again, it can by no means be definitely stated that such organic acids have no other than a bacterial origin in the stomach; it is still possible that they may be produced by unformed ferments or otherwise. Lastly, it may be suggested that as the free hydrochloric acid of the stomach is probably formed by the action of lactic or other organic acids on the sodium chloride within the parietal cells, consequently these organic acids are the original cause of the excess of the hydrochloric acid. Granting this, we cannot regulate the formation of these acids, and it still remains possible that in some manner Na Cl, or its derivatives, may stimulate or cause the partial formation of such acids.

It is, I believe, very evident to all practitioners that our knowledge and classification of stomach "catarrhs" or "dyspepsias" are still very imperfect, and by no means cover the ground. I am inclined to think that in the cases described the only parts of the mucous membrane at fault are the parietal cells of the fundus glands, and that here we have to deal with a pure "acid dyspepsia."

TREATMENT OF BALANITIS.

By W. R. CHICHESTER, M.D.,

NEW YORK.

In cases of balanitis one of the most potent causes for a continuance of the inflammation is the decomposed accumulation of the sebaceous material exuding from the follicles in the furrow at the base of the glans penis—mucus, pus, epithelium, etc.—which acts as a direct irritant. Assuming that the symptoms of this inflammation are well known, I wish to indicate a plan of treatment which has, during the past ten years, proved itself highly beneficial, and of which I can find no mention in medical literature. I refer to the local application of sulphate of atropia, the physiological action of which suspends the function of the mucous membrane and its glands when directly applied to the parts. This agent, combined with a mild astringent and a deodorant, gives us a means of absolutely controlling the secretions, at the same time it meets almost all other indications in treating the inflammation. The sedative action of atropia will relieve the tenderness of the parts, or if the pain is severe it can be combined with cocaine. The danger of systemic effect is almost nil; and should this follow, a suspension of treatment for a short time would suffice, when the solution may be reapplied at longer intervals. Where phimosis exists, a few drops of the solution may be injected between the glans penis and prepuce, with a slender-nozzled syringe, after the parts have been properly cleansed, and it will be found that the discharge will either immediately cease, or be greatly modified, affording us a point of diagnostic value in cases where urethral gonorrhœa is simulated. The ordinary advice to patients to keep the parts clean and dry cannot always be followed faithfully, and we can obtain better and quicker results if we take advantage of the peculiar action of this drug. Even in patients whose prepuce is long, and the mucous membrane lining it and covering the glands is sensitive to irritation, an occasional application of these combined agents will, in a very short time, render the part much less liable to inflammation. The subjoined solution is the one ordinarily prescribed by me, although it is open to any modification that the case suggests:

℞. Atropiæ sulphatis..... gr. j.
Zinci sulphatis..... gr. ij.
Acidum boracicum..... gr. v.
Aquæ destillat..... ℥ j.
M. Sig.: Apply twice or three times a day with a small brush.

13 WEST TWENTY-SIXTH STREET.

A CASE OF ENTERIC FEVER WITH PECULIARITIES.

By JOSEPH COLLINS, M.D.

Although physicians do not expect to find cases of enteric fever presenting the symptomatology of their textbooks without some irregularities in its development, it is rarely, I think, advisable to publish reports of individual cases; but the following case presents so many radically different features from the ordinary disease as to make it worthy of record.

Mrs. F——, aged fifty, complained on Monday, January 19th, of feeling somewhat indisposed and exhausted, but attributed it to the labor of a heavy wash-day. The next morning she had a headache, pains in the back and limbs, and chilliness, and that night a distinct chill lasting about six hours, followed by fever but no perspiration. The next day I was called in to see her and found her with a temperature of 103° F., a rapid compressible pulse, dry, furred tongue, some nausea and inability to keep anything in her stomach, bowels constipated, no abdominal tenderness or disturbance, urine about twenty-eight to thirty ounces in twenty-four hours, febrile in character, but containing no albumin. Face somewhat turgid but denoting no anxiety, pupils contracted, and mental condition rather sluggish, as she cannot tell exactly how she is sick, except that she has a splitting pain in her head, and it extends down her spine and her legs feel heavy and dead, and when attempting to get out of bed she staggers. Does not think she is very ill and wants to be left alone.

The following day, Thursday, there is no apparent change in the symptoms, except that the fever has been continuous and is now a trifle higher, 103.5° F., and her mind less responsive. On Friday the family report that she has been quite delirious during the night, attempting to get out of bed and not recognizing her own children. The symptoms are all exacerbated except the temperature, which remains the same.

Saturday morning I found an eruption on the chest and abdomen, and this seemed to be of two different varieties. One was irregular in form, purplish in color, seemingly not elevated, and disappeared on firm pressure, and then quickly reappeared; these spots were quite numerous, and varied in size from a pin's-head to a spot half as large as a penny, formed seemingly by the coalescence of several smaller ones. The second variety of eruption consisted of very small, bright-red spots which filled in the spaces between the others, and these were mainly on the abdomen; they were not elevated, disappeared on pressure, and recurred slowly.

Later in the day she was seen in consultation by one of the ablest consultants in the city, who gave it as his opinion that the case was unquestionably one of typhus fever. His diagnosis being based on the onset of the disease, the headaches and pain in the spinal regions, the temperature and early presence of delirium and prostration, and particularly the eruption and the absence of diarrhœa, abdominal distention and gurgling in the iliac fossa. On Sunday she was seen by Dr. Cyrus Edson and the Chief Inspector of Contagious Diseases, with a view to her isolation, and in a note to me later in the day Dr. Edson says that undoubtedly it is a case of marked enteric fever with unusual phenomena, giving as reasons for his diagnosis the absence of typhus fever in New York unless imported, for the past six or seven years, and the fact that the patient had not come in contact with any newly landed emigrants, or otherwise been exposed to any possible infection, and that no other member of the family had shown any signs of contracting the disease.

On Monday the eruption began to fade, the temperature still continued hovering about 104°F., the pulse very small and rapid and irregular in its force; the general condition of the patient being very bad. And this lasted till Friday, when the temperature fell to normal, where it remained, with the exception of an occasional rise of a degree in the afternoon.

From this time onward there was slow but continued improvement, so that in the latter part of the third week of her illness she was entirely convalescent.

The treatment employed was that which perhaps commends itself most favorably to physicians to-day, and consisted in the early and continued administration of intestinal disinfectants, as diluted hydrochloric acid, bismuth and charcoal, and stimulants as they were indicated.

Of course the radically different points in this history from that of the common case of enteric fever are the peculiar eruption, which really corresponded with the one ordinarily given for typhus, and there was no recurrence of it as in crops after it had first faded. Then the sudden rise and continued temperature, the constipation, the prolonged chill and prostration, the lancinating headache and early occurrence of delirium are not common symptoms of typhoid fever.

Methyl Blue in Diphtheria.—Dr. H. Beyer, of Stapleton, N. Y., writes to the *Medical News* that he has used methyl blue in fifty cases of pharyngeal diphtheria with successful results in all cases. He applies a mixture of chemically pure methyl blue and sugar, 2 parts to 98, using it as a powder.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

THE ADJOURNED DISCUSSION ON REMOVAL OF THE VERMIFORM APPENDIX—MR. KNOWSLEY THORNTON ON HEPATIC SURGERY.

LONDON, March 7, 1891.

At the last meeting of the Clinical Society the discussion on removal of the vermiform appendix was resumed by the President (Sir Dyce Duckworth), who remarked that it was a question of moment for the physicians to decide when to transfer these cases to the surgeons, and for the latter to determine how best to conduct the operation. It was evident that operation was not needed in every case.

Mr. Langton said that the results which had been brought forward showed that removal of the appendix did not necessarily involve any serious risk to life. Though he had seen a large number of cases recover under the care of the physicians, he was sure that surgery was far in advance of medicine in the treatment of this affection. In the cases of acute perforative appendicitis, especially if associated with general peritonitis, operation was clearly called for at once. In recurrent cases, with a periodic rise of temperature, indicating probably the formation of a small amount of pus, interference was also justifiable, but a considerable number of cases remained in which it was difficult to decide. It was bad practice to thrust in a needle to search for pus, and it added considerably to the patient's danger.

Mr. Pearce Gould said he could not agree that surgeons were at one with regard to methods of treatment. The relapsing or recurrent cases formed about ten or eleven per cent. of the whole, and those with general peritonitis about a similar ratio. But by far the largest number of cases were instances of inflammation of the appendix associated with circumscribed suppuration. Mr. Sutton had seemed to imply that abscess had existed some time before the acute symptoms were set up; but, for his own part, he regarded the abscess as the result of the local disease. The inflammation which occurred round the appendix very often not only shut off and localized the disease, but set up an inflammation in the appendix itself, which led to its obliteration, and the patient might then remain free from attacks afterward. He had never known a relapse after an attack of suppurating appendicitis. As to the treatment of these cases, the abscess should be opened, washed out, and drained, but the appendix need not be removed. It was better to wait in order to see where the abscess was forming, and then evacuate the pus by a small incision not more than an inch or an inch and a quarter long. This not only weakened the abdominal wall less, but one could never be sure of the extent of the adhesions, and it was certainly desirable to avoid opening the general peritoneal cavity. All the pouches of the abscess should be opened, taking care to avoid breaking down the limiting adhesions. He was glad to learn that Mr. Treves's opinion in regard to the desirability of removing the appendix in cases of relapsing typhlitis was different from that he had put forward three years ago. It should not be forgotten that there was a distinct mortality to this operation. Error in diagnosis was also frequent, and he had himself seen one case in which a perfectly healthy appendix was found on exploration.

Dr. J. K. Fowler said Mr. Treves was apparently now of opinion that in the majority of the cases which recovered the symptoms were due to fecal accumulation in the cæcum, followed by stercoral ulcer and inflammation of the overlying peritoneum. Stercoral ulcer, however, was a rare condition, generally absent in fecal accumulation, far in excess of that met with in typhlitis, and when present, as in chronic obstruction of the large bowel, often the cause of perforative peritonitis, whereas in fatal cases of typhlitis no such changes were found in the cæcum. All the evidence was in favor of the appendix being the seat of the affection. That the complete clearing up of the local signs could not be trusted to prove that the mild cases were of cæcal origin was shown by a case of Mr. Treves's, which proved to be one of appendicitis although before the operation there was "no trace of the iliac swelling," and "the abdominal signs had entirely disappeared." He agreed with the statement that "it could not be denied" that inflammation of the cæcum might in some cases be the cause of the symptoms, but he knew of no evidence pointing to that conclusion. During ten years eighty-five cases had been admitted into the Middlesex Hospital with the diagnosis of typhlitis or perityphlitis, and of these eighty-four had recovered and one had been "discharged at her own request." Only two of the cases had been submitted to incision. These figures showed that "the measures generally employed by physicians were not without success." During the same period the appendix was found, on necropsy, to be perforated in fourteen cases; in none of these were the signs during life sufficiently definite to allow of a positive diagnosis of typhlitis. No absolute rules could be given as to when to operate in such cases, but he thought the persistence of a high temperature after the fifth day suggested suppuration.

Mr. Charters Symonds related a case of his own in which a concretion was found in the appendix. He agreed with Mr. Gould that it was usually not necessary to remove the appendix, and referred to three cases in which, after simple opening of the abscess, the patients recovered. The abscess should be thoroughly irrigated out and a concretion sought for, due care being taken not to disturb the adhesions.

Mr. Jessett considered that the cases which the authors had related showed that early operation must be a proper procedure; the risk to life was certainly not so great as if the diseased appendix was left behind. If an abscess formed which was shut off from the peritoneal cavity, then the appendix might be left. In dealing with the stump of the appendix he suggested that it should be invaginated into the cæcum and held there by stitches.

Messrs. Allingham, Bland, Sutton, and Andrew Clark then replied.

At the Medical Society's last meeting a paper by Mr. Knowsley Thornton was read, entitled "Observations on some Additional Cases Illustrating Hepatic Surgery." The author gave notes of nine cases in which he had diagnosed gall stones. In seven of these he had found the gall-stones and removed them with complete cure; in one case he failed to find the stone, which (the patient dying) was found after death in the peritoneum; in the remaining case hydatids were found to be the cause of obstruction, and the patient recovered. Seven other cases were then referred to in which he had operated. One of these was a large hydatid cyst of the liver, which had been diagnosed by several physicians as disease of a much more serious character; the patient recovered. Two were cases of malignant disease, one a case of doubtful nature, and one of chronic pain and adhesion after the passage of large gall-stones. In none of these did he consider that the indications before operation pointed to the presence of gall stones. In one other case he operated, expecting to find gall stones; but found nothing definite to account for the attacks of pain, and though temporary relief followed the exploration, there had been recently fresh attacks of pain. The last case was one of very large tropical abscess of the liver, in a gentleman aged sixty five, in which unusually rapid recovery followed free incision and drainage. Mr. Thornton claimed that the results as a whole justified the operative procedures. At the same time there was sufficient uncertainty and failure to show that it was to more perfect diagnosis our attention must be directed. This would be aided by more frequent exploration in doubtful cases. Mr. Thornton pointed out the danger of attempting to force the stones through by massage. He also drew at-

tention to adhesion of the gall-bladder to the right kidney as a source of error in diagnosis, both from the position of the swelling and the sympathetic renal symptoms induced. He claimed three entirely new departures in this branch of surgery: 1. Direct incision of the common duct and removal of the stone, with complete suture of the opening without opening the gall-bladder. 2. Incision into the common duct, needling the stone into fragments, and closing the duct over the fragments, which were left to find their own way into the duodenum. 3. Leaving the gall-bladder open in the peritoneum, with efficient provision for drainage through the abdominal incision in cases in which it was impossible to suture it into the abdominal wound, and not advisable to attempt complete intra-peritoneal suture. In the latter case, and in all cases where fouling of the peritoneum was possible, he strongly advised a counter-opening above the pubes, and additional drainage by means of a glass tube in Douglas's pouch.

SURGERY BY AID OF ANODAL DIFFUSION.

To the Editor of the Medical Record.

Sir: In your issue of January 31st appears an interesting article upon "Anodal Diffusion," by Dr. Frederick Peterson. In it he quotes from a note received by him from me in June, 1889, the following sentences: "I have recently, since reading your article, tried this method upon a child's hand, requiring suture of a severed tendon. The injury was an old one, and there was no wound before I made my incision. The anæsthesia from ten per cent. cocaine upon the anode, continued with my chloride of silver battery (twelve cells) for ten minutes, was very satisfactory."

I write you, sir, to correct an error. My note aforesaid was written very hastily, and not *ten* but *twenty* minutes should have been the time mentioned; as appears from my history-book. I correct this misstatement, since others may try it, and will not, I am sure, feel satisfied with the anæsthesia produced in ten minutes; unless, indeed, a much larger number of cells than twelve be put in circuit. Furthermore, while I did not entirely shut off the circulation, yet by elevating and "milking" the limb and then holding it elevated during the anodal diffusion, I prevented in great measure the penetrating cocaine from being swept away in the blood-current. This should have been mentioned in my note to Dr. Peterson.

For ordinary purposes of local anæsthesia in surgery the element of time will always prevent anodal diffusion from supplanting other and quicker methods. Cocaine by hypodermic needle, freezing by ether spray (or on wet days, better, by æther petrolii), in each case with maintenance, of course, of local anæmia by tight rubber tubing or Spanish windlass—these plans are as efficient, and much more prompt. There are instances, nevertheless, wherein the electrical method of introducing cocaine serves an excellent purpose, hard of accomplishment otherwise. For instance, I have repeatedly used it, to the patient's satisfaction, as a preliminary step to removal of superfluous hair from the face by the electrolytic needle.

Very respectfully,

Robert H. M. Dawbarn, M.D.

345 West Fifty-sixth Street, N. Y.

METHYL BLUE IN MALIGNANT INOPERABLE GROWTHS.

To the Editor of the Medical Record.

Sir: At the last meeting of the German Physicians, on February 27th, I took the opportunity of referring to several experiments done by me with methyl blue. While I postpone reference to the subject in full for some later occasion, I would like to call attention to the following statement:

"Since February 2d, Dr. Rudish and I have administered methyl blue internally (by the mouth or rectum) in malignant inoperable tumors. The first case on which this method has been used by us refers to a lady about forty years of age, suffering from cancer of the uterus and ovaries; the condition before February was most critical, the tumor was as big as a man's head; anasarca, œdematous swelling of both limbs and the whole body, reaching nearly to the shoulders. The patient could hardly eat anything, the pulse was usually varying from 110 to 120, and very weak; pains, constantly. After giving methyl blue 0.2 in capsules, first by the mouth and afterward by the rectum, one capsule every day, the patient after a few days began to feel better; she lost her pains and could partake of more nourishment; in three weeks the anasarca disappeared, likewise the œdematous swelling, and there was noticeable a decrease in the circumference of the tumor. The pains have left entirely, the patient sleeps and eats, and is in the best of spirits; pulse, 80. The change in this patient's condition is a remarkable one. Two other cases of cancer (one of the stomach, the other of the liver) are undergoing the same treatment in the Mount Sinai Hospital, under Dr. Rudish, but the methyl blue has been given here only a short time. As this method of administering methyl blue internally (even not by means of hypodermic injection) was used first by us (Dr. Rudish and myself) in cases of inoperable malignent growths, and, as shown above, with seemingly good results, I take pleasure in recommending this method to the medical profession. The methyl blue must be chemically pure, and can be given in doses from 0.2 to 0.3, once or twice a day. The methyl blue can be had of Eimer & Amend (corner of Eighteenth Street and Third Avenue). I have used methyl blue also in cases of cystitis and pyelitis, and in phthisis pulmonum, but at present I have not as yet formed a firm opinion as to the value of methyl blue in these affections. Very sincerely yours,

Max Einhorn, M.D.

120 East Sixty-fourth Street, New York.

SCARLET FEVER IN JAPAN.

To the Editor of the Medical Record.

Sir: Enclosed you will find a letter, or rather a paper, which some time ago I sent to Professor James Law, with the request to publish it in your journal with the notes of the Japanese case of scarlet fever at Cornell, doubtless the same case recorded by Dr. Kirkendall in your last issue. I had done this upon receiving a letter from Professor Law, giving me all the details of that case. The following is a copy of what I wrote to the professor.

Sincerely yours,

Albert S. Ashmead.

4 King Street, New York, February 21st.

(*Copy.*)

Professor James Law, Ithaca, N. Y.

Dear Sir: I thank you for your letter of the 22d inst., with its interesting information relative to a case of scarlet fever in a Japanese student at Cornell. As you say, it may serve to throw light on the question whether susceptibility can be acquired by acclimation. There are three diseases prevalent in Japan with which Japanese cases of scarlet fever might be confounded: measles, roseola, and red measles or rubeola, the last very different from the first. The first appears in Japan only in epidemics and at long intervals. During my service there I saw none at all. In 1876 and in 1882 such epidemics are said to have occurred. Between these dates no cases were observed in Tokio. Baelz speaks of this disease as follows:

"The measles have been long known in Japan, and appear, as in other countries, occasionally in the form of a great epidemic. But these epidemics are rare, so rare that often a large portion of the population presents no cases at all for a long time. The last great epidemic occurred twenty years ago (1862); almost all now adult

Japanese of twenty to forty years of age were at that time sick of the measles; the same had happened to the older people twenty years before. It is believed that every twenty years a great epidemic is to be expected. In the intervals small endemics and isolated cases are said to be frequent. However, I have not seen, between the years 1876 and 1882 one single Japanese sick of the measles, and besides, a confusion with the rubeolæ (*sic*), of which anon, is not improbable. Among the children of the foreigners in Yokohama and Tokio the measles have been positively observed."

There exists in Japan another disease which the natives call kosahana (wind blossoms), which foreign observers variously term roseola, rubeola, and red measles, and which has been frequently mistaken for scarlet fever. It is not even allied to scarlet fever. It is an incontrovertible fact that puerperal fever does not exist in Japan; also that the presence of kosahana in a lying-in room does not result in the infection of the puerperal woman. These facts, I think, prove the non-identity and non-congeniality of kosahana and scarlet fever.

Remy, in this connection, says: "We meet with an exanthema offering now the symptoms of scarlatina, now of measles, appearing epidemically, often without fever, sometimes without subjective symptoms attracting the attention of the patient. The conjunctivæ, the throat, the vail of the palate, the pituitary, the bronchi, are slightly affected; there is a furfuraceous desquamation, almost imperceptible. Dr. Baelz calls it rubeola."

Here are some observations of Baelz on the subject: "Rubeola (red measles) is an exanthematous disease popularly called kosahana, that is, 'wind blossoms,' which has been long known in Japan. According to the descriptions the course of the disease is such a light one that often the patients take no notice of it at all. The exanthema is said to have some resemblance to scarlatina and often to measles. This suggested rubeolæ. In 1882 I was able to show that kosahana is nothing else. There was at that time a wide-spread epidemic in Tokio, and I had occasion to observe a great number of cases. As this epidemic has been described more accurately in another place, the following short indications will suffice: The exanthema was sometimes more like scarlatina, sometimes more like measles, but was in most cases easily differentiated from both. Yet sometimes its difference from scarlatina was not so easily perceived. Fever was sometimes absolutely lacking; where it existed it hardly ever reached forty degrees. As a rule, the conjunctivæ presented a slight catarrhal affection, likewise the throat and palate; rheum and bronchitis existed in a slight degree. Never really severe angina; never nephritis. Desquamation in small scales, often very indistinct. Frequently all subjective symptoms were lacking so completely that the patients themselves did not suspect that anything was wrong with them. They almost never sought their bed. The majority of the cases were adults. The contagiousness of the disease is smaller than in measles, scarlatina, or small-pox. All the patients recovered. The epidemic lasted about five months; isolated cases appeared the year through."

This is the disease which some natives claim to be the scarlet fever of Japan. It will be proper, perhaps, to state here that Baelz, whose description I have just quoted, thinks that the real scarlet fever exists in Japan. "All those," says he, "who have written up to the present time on these questions agree that there is no scarlatina in Japan. Wernich says distinctly that scarlatina is as yet a phenomenon perfectly unknown in the Japanese islands. This is a delusion. The disease is rare, but it exists. In 1877, that is, before the book of Wernich was published, I had observed such characteristic cases of scarlatina that I could in every respect demonstrate them to students, especially in regard to the course of the fever, as regular types. Strangely enough, all these cases—nine in number—concern youths and men from the age of ten to that of thirty years. I have seen scarlatina neither in woman nor in child, though I have no doubt they also must be affected by it occasionally. Almost all cases happened at short intervals, but nowhere contagion could be clearly demonstrated. Of these nine cases one, complicated with severe diphtheria (?), died of heart weakness, the others recovered. Nephritis occurred once in a slight degree, as a complication. These last five years I have seen a small number of scarlatina patients—at the end of 1880 and beginning of 1881. At that same time there were observed in the city pretty numerous cases, which all had a favorable course. There may have been, however, some confusions with rubeolæ, which were rampant at the same time. My observations concern here the capital—Tokio—especially. As to scarlatina in other parts of Japan, I am in possession of no information."

Simmons, whose opinion I gave in the letter to the MEDICAL RECORD to which you refer, says further:

"Scarlet fever and cerebro-spinal meningitis have never yet made their appearance in this country. I am aware that this is denied by at least one foreign medical man, in regard to the former, who claims to have seen eight or nine cases of it; but if this is so how happens it that no one else has observed it? A disease so terribly infectious as scarlet fever could hardly be limited to the practice of one individual." Speaking of infectious diseases among foreigners, he says: "In fact there has not been a single case of small-pox, measles, or scarlet fever, in the town of Yokohama, among foreigners or natives, that has not been imported. Indeed, it is exceedingly doubtful if scarlet fever exists in Japan at all, except in a very mild form."

My own observations, which embrace nearly forty thousand examinations, in hospital and private service in Tokio, showed to me not a single case of scarlet fever, nor a single case of puerperal infection. It is clear that if a case of scarlet fever in my practice had been overlooked, puerperal infection would have called my attention to the fact of its presence. If scarlet fever does exist in Japan, as Baelz, almost alone of foreign observers, believes, then it seems that puerperal infection must occur also. This is not the case.

Climatic conditions may account for the fact that measles are not endemic, and for the existence of the wind blossoms, clinically so similar to our scarlet fever, though not possessing its virulent infection. But if, as seems probable, the Japanese have a peculiar power of resisting not only the contagion of measles and scarlet fever, but, in the case of the latter, of resisting even the blood inoculation of the germs, then, something else—a racial factor perhaps—must be assumed; or shall we admit that this pathological peculiarity of Japan—the absence of scarlet fever—is connected with that other peculiarity of the country, the absence of any intimate relation between man and cattle?

Yours very sincerely,

ALBERT S. ASHMEAD.

NEW YORK, January 23, 1891.

Opposition to Large Families.—Mr. Arnold White is much concerned that the working-classes have such large families. He is anxious that the begetting of children should be kept within reasonable bounds, and has been writing to *The Times* on the subject. He disputes "the title of a penniless man to marry, beget ten children, and leave the consequences to God." He would, in the first place, raise the age of marriage from twelve and fourteen to sixteen and eighteen; secondly, he would require a male minor desiring to marry to give proofs of his ability to maintain a family; thirdly, he would empower the clergymen and registrars to decline to celebrate marriages for reasons stated; and, fourthly, he would segregate until old age habitual criminals and paupers, so as to prevent the reproduction of their kind. The last proposition is one that we can all agree to fall in with. Habitual criminals, lunatics, and confirmed paupers are such undesirable characters that we should adopt any means short of manslaughter to blot them out.—*The Hospital Gazette.*

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending March 14, 1891.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	9	6
Scarlet fever	155	25
Cerebro-spinal meningitis	4	7
Measles	425	15
Diphtheria	94	31
Small-pox	1	0
Varicella	6	0
Pertussis	0	0
Croup	0	0
Mumps	0	0
Rötheln	0	0

New Medical Society in Chicago.—The rumor has gone abroad that a new medical society is to be established in Chicago, owing—partly, at least—to the alleged insufficiency of the present organized bodies. It can be stated advisedly that, unless the new society is to take the form of a special body, it most certainly is a mistake, as there is now all the opportunity for professional association and advancement by the mutual interchange of thought that could well be desired. And even if it is the desire of any considerable number to have more attention devoted to any special branch such aim would best be accomplished by a sectional arrangement of one large society. The Chicago Medical Society now has a membership of quite five hundred, and is in a position to reflect upon any plan having the general welfare of the profession for its object.

Action of an Infusion of Coffee on Bacteria.—In studying the germicidal action of coffee Dr. Luderitz made use of infusions of different degrees of concentration, varying from five to thirty grains of coffee to 10 c. c. of water. He mixed from four to six drops of pure culture broth with 8 to 10 c. c. of this infusion, and at the end of a certain time he withdrew parts of this mixture and cultivated them in gelatine. Experiment showed that the micrococcus prodigiosus dies in a ten per cent. infusion of coffee in from three to five days, the bacillus of typhus in from one to three days, the proteus vulgaris in from two to four days, the staphylococcus aureus in from four to seven days, the streptococcus of erysipelas in one day, the bacillus of cholera in from three to four hours, the bacillus of anthrax in from two to three hours, and the spores of anthrax in from two to four weeks. In a thirty per cent. infusion of coffee the typhus bacillus dies in one day, the staphylococcus aureus in from one to three days, the bacillus of cholera in from one-half hour to two hours, the bacillus of anthrax in two hours, the spores of anthrax in from two to four weeks. In a second series of experiments Luderitz studied the influence of an infusion of coffee mixed with gelatine on the development of bacteria. These experiments showed that the micrococcus prodigiosus does not vegetate in gelatine containing from three to nine per cent. of coffee, the bacillus of typhus in gelatine with three per cent. of coffee, the proteus vulgaris with from five to nine per cent., the staphylococcus aureus with two per cent., the streptococcus of erysipelas with one per cent., the cholera bacillus with one, and the bacillus of anthrax with 0.6 per cent. The action is the same for the different qualities of coffee, and is due not to the caffein, but the products of the roasting of the coffee.—*The Sanitary News.*

The Baths of Damascus.—An old book tells the following story of a French doctor seeking a place to begin practice, which points out a valuable hygienic lesson: "A French doctor went to Damascus to seek his fortune. When he saw the luxurious vegetation, he said: 'This is the place for me: plenty of fever.' And then, on seeing the abundance of water, he said, 'More fever, no place like Damascus!' When he entered the town, he asked the people, 'What is this building?' 'A bath!' 'And what is this building?' 'A bath!' 'And that other building?' 'A bath!' 'Curse on so many baths! they take the bread out of my mouth,' said the doctor; 'I will get no practice here.' So he turned his back and went out of the gate again, and hied himself elsewhere."—*Annals of Hygiene.*

A Chicago Medical Library.—The medical profession of Chicago and vicinity will at no late day have abundant occasion to feel proud of the medical reference library to be placed at their disposal. Librarian Poole, of the Newberry Library—the large, new building for which is now undergoing construction—has been at no small pains to place himself in touch with the requirements of a grand medical collection. The representative members of the profession have been communicated with, and have been requested to furnish lists of such works as they wished to see placed upon the shelves. Already many productions of the utmost value are being gathered from far and near.

A Definition of Insanity.—Dr. Harris C. Rodgers, M.D., of Binghamton, N. Y., offers the following: "As a contribution to the elucidation of a problem which puzzles both the general practitioner and the alienist, I would offer, by the courtesy of the RECORD, the following definition of insanity, viz.: A disease of the brain exclusive of gross congenital and early childhood defect of development, which makes one's mental processes, under similar somatic conditions except for the influence of the brain disease present, differ from those of the great majority of people of one's generation."

Smart Sayings of Dunces.—A student taking the examination before the State Board of Examiners of Virginia for license to practise gave the following startling information: "Symptoms of œdema of the glottis are that the patient feels husky and has sore throat. I would amputate it if necessary. I would do the operation within three or four months if it was a bad case." That is about on a par with the man who said that in post-partum hemorrhage he would ligate the post-partum artery, or the one who thought that pyelitis was inflammation of the *pyloric end* of the stomach.

BOOKS RECEIVED.

DISEASES OF THE DIGESTIVE ORGANS IN INFANCY AND CHILDHOOD, with chapters on the Investigation of Disease; the Diet and General Management of Children, and Massage in Pediatrics. By Louis Starr, M.D. Second edition, 8vo, illustrated, 396 pages. P. Blakiston, Son & Co., Philadelphia, Pa.

A COMPEND OF GYNÆCOLOGY. By Henry Morris, M.D. 12mo, illustrated, 178 pages. P. Blakiston, Son & Co., Philadelphia, Pa.

MEDICAL NURSING. Lectures delivered in the Royal Infirmary, Glasgow. By J. Wallace Anderson, M.D. Fourth edition, 12mo, 224 pages. Price, 75 cents. Macmillan & Co., New York.

APHORISMS IN APPLIED ANATOMY AND OPERATIVE SURGERY. By Thomas Cooke, M.D. 12mo, 173 pages. Price, $1.25. Longmans, Green & Co., New York.

TRANSACTIONS OF THE MEDICAL SOCIETY OF NORTH CAROLINA. Thirty-seventh Annual Session. 8vo, 221 pages.

A TEXT-BOOK OF THE DISEASES OF THE EAR. By Dr. Josef Gruber. Translated from the Second German edition. By Edward Law, M.D., and Coleman Jewell, M.B. 8vo, illustrated, 580 pages. D. Appleton & Co., New York.

Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 39, No. 13.
Whole No. 1064.

NEW YORK, MARCH 28, 1891.

$5.00 Per Annum.
Single Copies, 10c.

Original Articles.

THE IMPROVEMENT OF EVACUATORS FOR LITHOLAPAXY, AND THE LATER DEVELOPMENTS OF THE OPERATION.

BY OTIS K. NEWELL, M.D.,

SURGEON TO OUT-PATIENTS AT THE MASSACHUSETTS GENERAL HOSPITAL, BOSTON, MASS.

WHEN Professor Bigelow, in 1878, first taught the world the value of litholapaxy, by demonstrating the toleration of the bladder to prolonged operation, he furnished what has been the greatest incentive to the improvement of instruments for the modern stone operation.

Nothing appeals more strongly to the mechanical sense of surgeons and the acquirement of delicate manipulative power than the construction and use of stone-instruments; and its history is as interesting, perhaps, as any chapter of surgery. I shall but briefly consider the development of evacuators up to the point of what I believe to be the best type among those thus far produced. It does not seem reasonable that an instrument which first began to be constructed certainly no further back than 1834 should yet have reached perfection; nor is it probable that advantageous change will not continue to be made until evacuators are no longer needed.

The development of evacuators is familiar to all. It began with Crampton's bottle, which was but a common ovoid glass flask with a stop-cock at its neck allowing the air to be exhausted. This was attached to a catheter introduced into the bladder and, with the stop-cock opened, drew the urine, in which were crushed stone fragments, into its vacuum. There was, in this bottle, no trap. The lithérétie of Cornay was a similar arrangement, and, according to Ashhurst's "International Encyclopædia of Surgery," was described one year earlier than Crampton's bottle. In this instrument, also, there was no trap, and as but one suction or pumping movement was made at a time, none was needed. Then came, with Mercier's washing bottle, and Clover's first evacuator, the various rubber-bulbed instruments into which a trap was introduced to admit of repeated suction movements. Without describing or criticising in detail any of these instruments, or any of the subsequent evacuators, I shall endeavor to show that in all of them two important factors in construction have been overlooked. First, that a trap is an unnecessary element introduced into the length of the evacuating canal. Second, that the surgical distance from the external meatus to the bladder is rarely more than from four to six inches, and that therefore the length of the evacuating canal through which fragments are to be lifted should seldom exceed twelve inches, and may range, in children and adults, anywhere from six to twelve inches, this including the total distance which fragments have to travel. The value of these statements to the welfare of litholapaxy is great, for it is important to increase its scope and diminish its mortality by every possible improvement of the instruments concerned in its performance. This is especially true for cases of stone in children; and where in adults, from large size of stone or other complication, the operation may be prolonged for even two hours or more. Notwithstanding the suggestion from many able operators, of recurring under the advantage of antisepsis more frequently to lithotomy by the supra-pubic way, I cannot but think, in consideration of the beautiful results of litholapaxy in children, that a stone will rarely be found whose removal shall depend upon the use of the knife.

In discussing the improvement of evacuators, I shall consider in detail those parts which have been radically changed in my instrument, and begin with the trap, which, whether as a form of valve or special receiver, has entered into the construction of all the other modern instruments.

The Trap.—That in a properly constructed evacuator a trap complicating and increasing the length of the evacuating canal is unnecessary can perhaps be best demonstrated by using my evacuator (Fig. 9). In this evacuator, as may be seen, the radical change is the introduction of a shortened tube into the top of the bulb.

Fragments of coal, coral, and other materials have been used by former experimenters in demonstrating the action of their evacuators; and although I have used all these, in order to be still more certain I have chosen fine sand for the crucial test. Now, it will be seen in operating the evacuator, that the sand fragments are rapidly drawn in by the aspirations of the bulb, driven against its top, and thrown into the receiver. They do not tend to float nor to be carried about in any swirl of the current, but in accordance with physical laws sink rapidly, and will be even seen to do so during compression of the bulb. In fact, so absolutely does the receiver, and the greater part of the bulb, for that matter, represent what Professor Otis, in describing his "perfected evacuator," has termed a dead point, that the grains of sand will be seen to settle quietly in a pile, the conformation of which will not be in the least disturbed by the most forcible compression of the bulb.

At the top of the evacuator, as in my first model, is attached the Bigelow pipe for filling. This I consider one of the most valuable parts of an evacuator, for by its use the volume of fluid in the bulb and bladder may be at any instant rapidly increased or diminished, and all air removed from the apparatus.

Tubes.—My second point for consideration is the evacuating tube, and in its construction we should bear well in mind what I have endeavored to lay stress upon in two previous publications, and that is the fact that the surgical distance into the bladder is usually not more than from four to six inches. By this I mean, and I have repeatedly proved the fact upon the cadaver and in the living subject, that if we take an ordinary curved metallic sound, introduce it well into the bladder, depress it to a plane parallel with the table, and then withdraw it until the curve arrests its further progress, we will, by pushing the glans as far back as possible upon the external portion of the instrument, find if we hold it at this point and then withdraw it, that only a few inches, three and one-half to six at the most, have been engaged upon what I am pleased to call the surgical length of the urethra, or the surgical distance to the bladder. This can be well shown by studying a figure from a frozen section made by me through a split metallic sound introduced and fastened in the position just indicated. The difference between it and the usual figures illustrating this subject is readily seen.

It therefore seems that in the construction of evacuating tubes we should endeavor to have them made so as to apply to the most advantageous length possible of use in each case. Why should we maintain a uniformity in

the length of tubes any more than in their calibre? I have seen a large number of cases in adults where evacuation could have been readily performed through a six-inch tube, while in others, as we all know, the evacuating power of the bulb has had to be diminished by very long tubes in order to overcome the difficulties of a prostatic

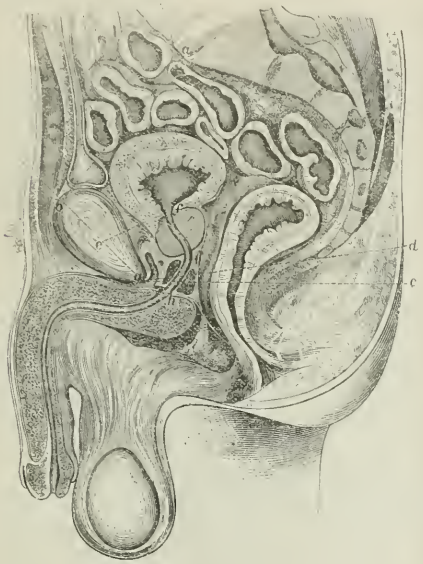


FIG. 1.—Taken from Dittel's Deutsche Chirurgie.

obstruction. In a delicate operation like litholapaxy, it does not seem wise to restrict ourselves to a limited and fixed set of tubes.

The more I become experienced in the use of straight open-ended tubes, the more I am convinced of their great superiority over any other kind. Given a bladder fully distensible and without inordinate prostatic obstruction, their action is perfect. One soon learns, using a tube that moves freely in the urethra, to place the tube orifice with the utmost precision and delicacy. By a few gentle aspirations the bladder wall can be felt almost as delicately as with the finger, and then the tube orifice placed in any desired position. Through these tubes the fragments travel in a straight line, and thus may be rapidly shot into the bulb. If the obliquely-cut opening be held laterally, the side of the tube may be then used to press against the bladder-floor. With the taper joints by means of which the tubes are connected in my apparatus, the orifice may be readily turned in any direction without uncoupling the apparatus. The floor of a distended bladder is not very easily aspirated, nor is the wall, for that matter, when the distention is even and full. With the orifice turned downward and held about one-fourth of an inch from the bladder-floor, the aspiration is very rapid. In fact, with the straight tube orifice carefully placed in any of the positions, lateral, upward, or downward, the aspiration is very rapid and certain. The fragments are shot in a straight line into the evacuator, and once there never return. I have had some operators, after using these tubes, say that after three or four aspirations there seemed to be something the matter, as no more fragments came. The fact, however, proved to be that they had all been removed, as the tubes were in the two cases in mind of 30 calibre. My straight tubes are constructed so that those of a given calibre take much larger fragments than can be passed through unguiform-tipped tubes of the same size. This is especially the case with those used in children, 17 F and lower calibre, where the advantage of the straight open-ended tubes is so great as to make the operation feasible with them, where it would otherwise not be. Where the straight open-ended tubes cannot be used I prefer a curved unguiform-tipped tube eight inches or more in length. This sort of a tube is needed in those extreme cases of prostatic enlargement which elevation of the pelvis will not overcome. Whether in children or adults, the fingers gently used in the rectum will enable one to locate the tube orifice, if necessary, with the utmost precision. Much to my surprise, at first, I found experimentally that a straight unguiform tipped tube acts really like a curved tube by drawing the fluid, not in the direction of its own long axis, but at an angle as indicated by the arrow in the figure. This must naturally be the case, since, as the tube is constructed, the orifice is really a hole in its side. This may be readily demonstrated by holding the tube orifice near the surface of water in a flask, and observing the angle taken by the vortex made by the aspiration. No matter if the tip be buried in the bladder floor then, the current tends to draw over fragments settled at the bottom, and not to draw them directly toward its orifice. This, in the last and critical portion of the aspiration where the fragments are diminished in number, is very important. If the bladder-wall is forcibly aspirated, it will be cut as easily by the sharp sides of the unguiform-tipped tube as by my oblique orifice, the edges of which are rounded. But, as will be stated further on, this is an accident which should be avoided. I am now having my tubes made of aluminium, and also stone-sounds of that metal.

In considering the method of procedure in litholapaxy

FIG. 2.—Frozen Section Made Through a Split Metallic Sound in Full-sized Adult, to Show Surgical Distance to Bladder.

to-day, there are, I think, many facts, deduced from the experience of various operators, which should be well borne in mind. In the first place this, like all other operations in the present time, must be made as much as possible an aseptic one; and although a preliminary treatment, as suggested in the "Vorbehandlung" recommended by some German authorities, is not needed, except in case

of stricture or urine with very unfavorable reaction, etc., yet at the time of the operation the bacteria should be reduced to a minimum. This is best accomplished by first scrubbing and washing the field of operation, and protecting it with antiseptic towels. Instruments should be taken apart, boiled in water where possible, or left for twenty minutes at least in five per cent. carbolic acid solution. For the disinfection of the bladder perhaps the most efficacious and practicable method is that of the greatest possible dilution of the bacteria, if not their complete removal, by thorough washing with the evacuator, using a two per cent. to five per cent. boracic acid, or a 1 to 5,000 or 10,000 corrosive sublimate solution. This should be done as a preliminary to all other steps in the operation, and the evacuator again disinfected. One very important point in the operation, both during crushing and evacuation, and one that is neglected by some operators in this country, although always advocated by such authorities as Ultzmann, Guyon, Thompson, Dittle, and others, is the elevation of the pelvis in adult males. This should be done, not as an exceptional expedient in the operation, but as the rule, by a pillow or specially made cushion placed beneath the buttocks. The prostate is thus usually eliminated from the field of operation, and fragments are more easily crushed and evacuated. The work with the lithotrite, in the average case, seems to be best done by holding the convexity of its female blade against the gently depressed wall of the bladder and steadily crushing fragments, as they are shaken into place by the ordinary slight movements of the instrument, and not by needless "fishing" about. The average stone is thus rapidly crushed and the operation uneventful, although of course any unusual formation of prostate or bladder may make every sort of tactics necessary in order to perform the operation.

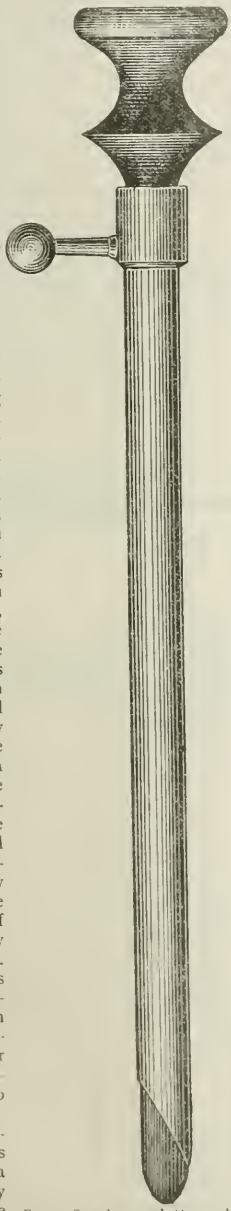


Fig. 3.—Straight, 18 inch, Open-ended Tube, with Stuff for Introduction. Slightly enlarged.

The operation of lithola-paxy should be a bloodless one. There is, I think, a strong tendency among many American operators to force the passage of unnecessarily large instruments. Only such should be used as pass with perfect freedom through the urethral canal, and thus admit of the greatest delicacy of manipulation, and assure the least disturbance of the parts. Instruments in the adult, therefore, varying in measurement from 25 to 30 F., and in children from 14 to 20 F., are the best. Comminution for passage through tubes of any of these sizes is readily enough accomplished. In the early use of large tubes it was naturally interesting to see of what size fragments could be delivered, but it is better for the welfare of the operation to limit them to the size of tubes as above indicated. By doing this we are not losing sight of the great advantage which Professor Otis' demonstration of urethral measurement has been to this operation, but taking intelligent advantage of it. Where the meatus requires division this may be done with the cautery, to avoid an open bleeding wound. Ultzmann has devised a special apparatus for this purpose.

In determining the quantity of fluid to be used for distention of the bladder, it is well to remember that as little as 150 c.c. have been known to cause rupture, and it is well to measure its capacity at first by careful injection. The bladder should always be distended, especially in evacuation, sufficiently to avoid aspiration or pinching of its wall. This sort of injury is the most common cause of hemorrhage, and can be well understood when one examines the delicate vascular wall of the bladder with the cystoscope. Very serious hemorrhage has thus been caused by injury to the venous plexus about the vesical neck, and Antal reports such a case examined by him afterward with the cystoscope. The injury was supposed to have been done with the lithotrite. I have often seen small clotted aggregations over points from which hemorrhage had come in bladders prone to bleed on cystoscopic examination.

Evacuation.—As far as the aspiration of fragments is concerned, I believe that here, as in crushing, the work is done at best advantage when the tube is placed with the orifice at the lowest depressable point of the bladder-wall. Here in time the current is sure to bring every fragment, and such as arrive during the lifting power of the bulb—that is, while there is still current enough to carry them to the inner end of the tube—are sure to be delivered into the receiver. The importance of the shortest possible canal is thus readily seen. If we take experimentally a glass tube four feet in length, we will find that with the expansion of the bulb the sand fragments will be drawn well up toward the top of the tube, but none of them will be carried over. If now we reduce the tube to one-half this length, we find that the fragments are thrown into the receiver in large quantities, and that those that fail to reach the inner orifice stop moving the instant the expansion of the bulb is completed, begin to fall backward, and are then driven out of the tube by the compression of the bulb. If the tube be now progressively shortened, we notice that the evacuating capacity of the apparatus is rapidly increased. The corollary is thus established that, as the length of the tube is diminished the working capacity of the evacuator is increased. The importance of using tubes of such calibre that, with free movement through the urethra the tactile sense is made most delicate, is very apparent.

Many may not realize how slight the lifting power of the ordinary bulb current is. According to the experiments of Desnos [1] it is capable of reaching still fragments at a distance of six to seven millimetres, while those set in motion by the bulb-current may be drawn in at a distance of from twelve to fifteen millimetres. The great advantage of increasing this power is readily seen. With a weak current we are apt to feel obliged at times to place the tube orifice too near the bladder-wall, and thus run the danger of wounding it. The shorter the tube, the longer the bulb expansion continues to draw fragments out of the bladder. To those who have not had much experience with this operation, or have made but little experimental study of it, the difficulty of evacuation and the amount of time it takes may be little realized. Professor Bigelow, in his original article on the subject, said: "Evacuation of fragments is quite an entertaining art, requiring as much skill to accomplish the result in the short-

[1] Antal: Pathologie und Therapie der Harnröhre und Harnblase.

est time as crushing them. Dexterity in the process will hardly be acquired without practice outside the bladder."

I cannot omit mentioning the great advantage which American operators have over those who do not use ether anæsthesia in this as well as other operations. I can

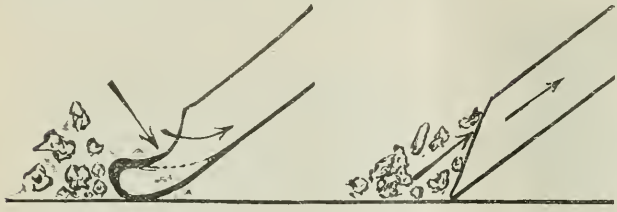


Fig. 4.

speak for the Massachusetts General Hospital at least, and for other clinics in this country as well, I think, and do not hesitate to say that we almost never have a case—and among thousands I have never seen one, even in those with heart lesions—where we have feared in the slightest degree to produce complete anæsthesia. In fact we have never had in our hospital, where ether was first introduced, a death directly attributable to it. This is in strong contrast with those cases where, as I have seen abroad, distention of the bladder has been abandoned because the muscular contractions could not be overcome, and there was fear of forcing the chloroform narcosis. Or, as shown in the following quotation from Antal, "Contra-indications: (*a*) such extreme sensibility of the bladder as cannot be sufficiently reduced by narcosis to admit of the performance of litholapaxy." Likewise, on page 15 of Mosetig-Moorhof's "Surgical Technique," in the chapter on anæsthesia, "As has before been mentioned, narcosis by means of sulphuric ether has now become wholly obsolete." Or from Ultzman, "Krankheiten der Harnblase," 1890, page 250: "In litholapaxy ether anæsthesia is generally insufficient." Sir Henry Thompson prefers ether for this operation.

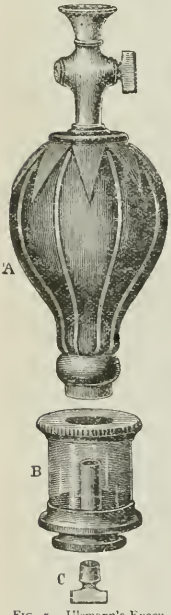


Fig. 5.—Ulzmann's Evacuator. ½ actual size. Very light, but practically like Clover's Evacuator. Length of evacuating canal, about 14 inches.

Cystoscopy.—For the diagnosis and general inspection of a case with stone in the bladder, the cystoscope is often of great value. I have in mind one remarkable case—that of a woman examined by me for Dr. John Homans—where most careful sounding had failed to reveal any stone; and yet with the cystoscope two small phosphatic calculi were easily seen, in the clear distention fluid, lying at the bottom of the bladder. Dr. Homans subsequently removed them by litholapaxy. Two other cases in men I have examined, where a small stone had not been detected by the sound. Both stones were removed by litholapaxy, one by Dr. C. B. Porter at the Massachusetts General Hospital, the other by myself in private practice. Any peculiar conformation of stone or bladder may be readily detected with the cystoscope.

Litholapaxy in Children.—The first American litholapaxy in a very young child was performed by Dr. H. H. A. Beach, at the Massachusetts General Hospital, on May 27, 1889. Dr. Beach was kind enough at that time to use my first model of evacuator, similar in principle to the present, and straight open-ended tubes. In fact, it is in great part owing to his never-failing kindness and co-operation that I have been enabled to accomplish what little I may have for this operation. A No. 17 F. Bigelow lithotrite, kindly loaned by Dr. Mixter from the Carney Hospital, was used for the crushing. The fragments of this stone were shown at the annual meeting of the Massachusetts Medical Society, in June, 1889.[1]

The operation was in detail as follows:

E. S——, aged three years and eight months. Stone in the bladder. May 27, 1889, operation by Dr. Beach. Ether, three and one-half ounces. Boracic solution injected into the bladder. No. 17 F. Bigelow lithotrite easily introduced. Stone grasped apparently the size of a hazel-nut and easily crushed, although quite hard. Fragments removed with Dr. Newell's modification of Dr. Bigelow's evacuator, and short straight open-ended tube six inches in length. With lithotrite then crushed a few small fragments which were readily aspirated. Absolutely no hemorrhage. Calculus stratified phosphatic with hard nucleus, weight twelve and one-half

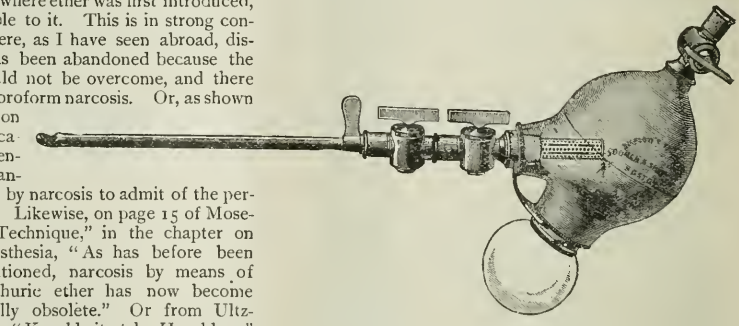


Fig. 6.—Bigelow's Evacuator. ½ actual size. Weight, 24 ounces. Holds 10¾ ounces. Length of evacuating canal, 15¾ inches.

grains. May 31st, has done perfectly well, complains somewhat of pain on micturition. No œdema of glans. No blood. Has not passed any fragments. Slight diarrhœa. June 6th, up and about. June 12th, discharged.

The second operation of this kind in America, as far as I am aware, was performed by me on December 14, 1890, in a boy two years and eleven months of age. The stone was, I believe, the largest ever removed from a child of this age by litholapaxy. Its fragments weighed when dried sixty grains, and were phosphatic in character with dark admixture. My present model of evacuator was used, with a straight open-ended tube five inches in length. A shorter tube could have been readily used, and I shall hereafter have tubes made from four inches and upward in length. The total length of the evacuating canal was seven inches. The operation in detail was as follows:

Case I.—M. R——, two years and eleven months of age. Stone in the bladder. December 14, 1890, litholapaxy with kind assistance of hospital externes Drs. Pease and Lothrop. Ether. Surrounding parts washed with 1 to 1,000 corrosive sublimate solution. The meatus admitted only about a No. 12 F. sound and was divided, after which a No. 17 F. readily entered the remainder of the urethra. Bladder washed with boracic solution, five per cent. Evacuator again disinfected. A No. 5 E. lithotrite, wholly fenestrated, made by Krohne & Sesemann, presented to me by my friend and colleague, Dr. John Homans 2d, was used and worked to perfection. I could readily have introduced a No. 17 F. Bigelow lithotrite which I had with me, but naturally preferred

[1] Boston Medical and Surgical Journal, vol. cxx., No. 25, p. 609.

the smaller instrument, as the stone was not very hard. The largest diameter of the stone seized in the lithotrite was about five-eighths of an inch. If it had not been for one fragment too large to pass through the 17 F. tube, there would have been but one crushing. As it was, I had to introduce the lithotrite a second time. The first fragment seized then, however, was the only one large enough to need crushing, and the operation with a second evacuation was rapidly accomplished. It lasted about fifty minutes, the crushings taking about fifteen and five minutes, respectively, the evacuation and other manœuvres the remainder of the time. The subsequent history of the case was, considerable pain with micturition for the first three days, but no fever and no bloody urine. The penis was somewhat swollen during this time. After the fourth day the patient remained comfortable and played about the room. Twenty-two days after the operation the boy was entirely well, and had gained five pounds.

There is no longer any doubt of the great value and superiority of this operation for the removal of stone from children. Established by Keegan and his coadjutors with the remarkable list of one hundred and fourteen cases, it has been sustained by many valuable supplementary lists. Among those next in value probably stands that of Freyer, thirty-four cases, among which I believe was the youngest child thus far operated upon. This patient was a child of eighteen months, from whom a No. 5 E. lithotrite and a No. 6 E. cannula removed, in eight minutes, a stone the dried fragments of which weighed three grains. Dr. D. P. Allen, of Cleveland, reported before the American Medical Association, in June, 1889, four admirable and successful cases. They were, however, patients already in their teens. I have performed litholapaxy successfully in a boy of eighteen years.

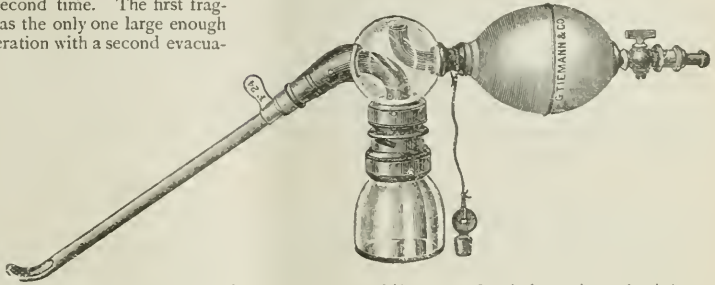


Fig. 8.—Otis's Evacuator. ¼ actual size. Weighs 10 ounces. Holds 8 ounces. Length of evacuating canal, 14 inches.

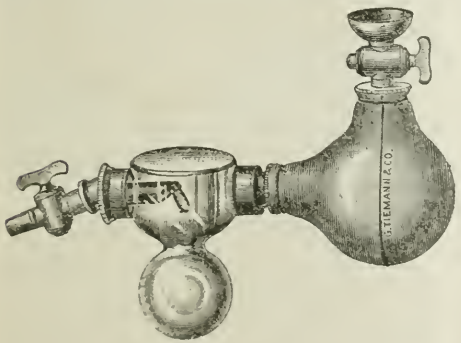


Fig. —Thompson's Evacuator. ¼ actual size. Weight, 27½ ounces. Holds 12½ ounces. Length of evacuating canal, probably 14 inches.

As far as this operation in very young children is concerned, I believe, so admirable are its results, that where there are no contra-indications it is better to let the stone remain until the child is of an age to have it removed by litholapaxy. This, by keeping the urine dilute and the child well nourished and moderately quiet, can be readily done. My patient's condition was much improved by adopting this plan for three months preceding the operation. This I did, not on account of the urethral calibre, but with regard to the poor physical condition. The child improved greatly during these three months, and was in fine condition at the time of the operation. By following this plan we should avoid the mutilation of lithotomy, which, with its various sequelæ, stricture, prostatic obstruction, residual urine, cystitis, etc., may, as was said by some old French authority, I believe, be the death-mark of him who receives it. How often we see children who with no great discomfort have carried stone, as far as symptoms could indicate, for years!

The tabulated cases, as far as I have been able to find them in the "Index Medicus" and elsewhere, are as follows:

Litholapaxy in Children.

Operator.	Number of cases.	Recovered.	Died.	Country.
Keegan	114	110	..	India.
Freyer	34	34	..	"
Marshall	5	5	..	England.
Beach	1	1	..	America.
Newell	1	1	..	"

It was my good fortune to be the recipient of a double term as house officer at the Massachusetts General Hospital under Professor Bigelow's direction, which gave me, instead of the customary single service, an opportunity during two years to work with him soon after the publication of his earliest papers upon the new operation. I remember well his great enthusiasm upon the subject, and his unbounded devotion to his patients. One could not work with him continuously without being impressed with the importance of developing every mechanical possibility that would reduce difficulties and make his great discovery practicable for all. No one urged this point more than he in the critical remarks with which he accompanied his operations. A few months before his death I called to show him my proposed changes in evacuators, feeling sure of his kind interest in any instrumental improvement that was likely to facilitate his operation. He expressed much interest in my new model, which I was to exhibit before the Suffolk District Surgical Section of our State Medical Society, and asked me to state there for him that

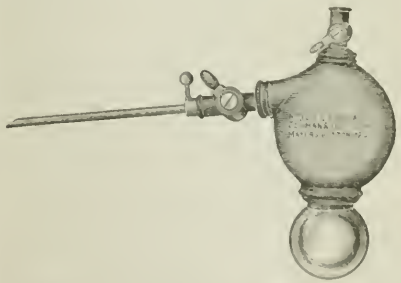


Fig. 9.—Newell's Evacuator.* ¼ actual size. Weighs 9¾ ounces; holds 9¾ ounces; length of evacuating canal, as used in children and adults, 6 to 10 inches. Special advantages may be considered to be, 1, its simplicity, being without trap and with shortest evacuating canal thus far made possible; 2, its lightness; 3, taper joints to admit of readily turning the tube orifice in any direction without uncoupling; 4, form of stop-cock, which may be readily operated with a single finger; 5, aluminium tubes; 6, non-corrodable, being made of rubber and glass.

he had hoped to overcome the problem of weight in the future by the use of aluminium fittings, promising if able to attend the meeting. At the close of a most delightful interview he said, "Well, Newell, I've no doubt that you have got a good evacuator, and after all, a thing is bound in the end to stand on its merits." This had certainly been shown but a short time before in his case, by the most courteous acknowledgment of his litholapaxy published in the London *Lancet* by Sir Henry Thompson.

In conclusion, if I have contributed anything to make Dr. Bigelow's operation easier of execution and more practicable for the general operator, it is the tribute that I desire to pay the genius that illuminated the surgery of America for forty years.

THE TREATMENT OF MENORRHAGIA AND METRORRHAGIA BY THE CHEMICAL GALVANO-CAUSTIC ACTION OF THE POSITIVE POLE.[1]

By AUGUSTIN H. GOELET, M.D.,
NEW YORK.

ALTHOUGH these conditions, when present, are to be regarded as a symptom rather than a disease *per se* they are usually of sufficient importance to require separate consideration, and a plan of treatment directed to their control independent of the cause. Fortunately, however, the galvanic treatment instituted for the relief of this symptom is generally peculiarly suitable also for the disease or condition which produces it. Hence, in attacking the endometrium for the control of the hemorrhage, the causative condition is, likewise, not only indirectly, but directly benefited also.

In adopting any line of treatment much depends upon the associated condition as to how active it may be, and this applies especially to the use of galvanism, for the strength of current which it is safe to use depends much upon the pathological state of the uterus and the surrounding tissues. Thus, when associated with a chronic peri-uterine inflammation or exudation, we must proceed cautiously and feel the way to the higher currents which are sometimes necessary to control the bleeding, never using more than 30 to 50 milliampères at the commencement or until the inflammatory condition has been subdued.

There are some minor but important details in connection with the treatment of these conditions which must be borne in mind. If the hemorrhage be apparently aggravated instead of being checked, as expected, by the applications, the cause of the failure is to be sought before the method of treatment is condemned and abandoned. It will usually be found to be due to the crudeness of the manipulations. Bear in mind that there exists great engorgement of the endometrium, and that even the introduction of the sound, ever so carefully done, will generally intensify the flow. An abrasion may have been produced in introducing the electrode, which continues to bleed after its withdrawal because the electrode did not happen to remain in contact with it during the application. Perseverance, with an appropriate electrode, will undoubtedly yield success. Perhaps the electrode has not been kept still during the application, but either carelessly or intentionally it has been moved about in the cavity, which will not only irritate but will actually defeat the object of the application—cauterization—by preventing constant and sufficient contact of the electrode with the bleeding surface. Perhaps the strength of the current is not sufficient, and the patient will not submit to the pain produced by a current of suitable strength, or to the proper duration of the application. In this case an anæsthetic must be given, but it will not be necessary to produce deep anæsthesia. A small quantity of chloroform or æther on a cloth, administered after the same plan as in childbirth, will be sufficient to divert the patient's mind from the application, and the first exhilarating or intoxicating effect affords sufficient indifference to pain. The electrode is to be placed in position and the current turned on very gradually as soon as the cloth is placed to the patient's nose, and she is told to breathe deeply as in taking gas, and as the pain increases she is to breathe more deeply and more rapidly, and she will not feel the pain. Continue talking to her and insist upon the necessity for deep respiration and she will tell you afterward, perhaps, that she felt the pain slightly, or knew what was being done, but did not mind it.

I have found this method of producing quick and partial anæsthesia or indifference to pain very convenient in office work, because consciousness is almost immediately restored as soon as the anæsthetic is withdrawn, which should be done when the current is turned off. But the patient must remain quiet for a short time without being disturbed from the couch upon which the application has been made until the immediate effect of the application has passed off. It will, of course, be necessary to have the assistance of a competent nurse who has been trained to assist in such cases, or else the patient may prove troublesome to manage.

Such applications as require anæsthesia are not, of course, to be done at the office as a general thing, for the patient should in some cases remain in bed until the reaction from the treatment has subsided, and she would be more comfortable at home and it would be safer; but if you know your case it may be treated thus at the office with perfect safety, and certainly with greater convenience to the operator.

For controlling uterine hemorrhage the peculiar hæmostatic action of the positive pole is taken advantage of, and to produce a permanent result a decided caustic action must be obtained. There are two methods of application; viz., either with the platinum sound to the whole length of the canal, from external os to fundus, or by sectional cauterization, the latter being more effective.

The electrode must fit the cavity snugly when sectional cauterization is to be done, and if the cervical canal is too small to admit a size sufficient for this purpose, it must be previously dilated with a steel dilator. It will not be necessary to employ much force to accomplish this, and extreme care should be observed that no injury is produced. The uterine cavity only is to be submitted to this sectional cauterization and the cervical canal is to be avoided unless there is some special indication, because it is more sensitive than the cavity of the uterus and unnecessary pain is to be avoided. Besides, contraction of the canal could easily be produced by a strong positive galvanic cauterization after dilatation and the escape of the thick plug of tenacious mucus which protects the canal from the effect of the positive pole when it is present.

We are to expect a better and more prompt effect from a cauterization after dilatation, not only because of the better contact of the electrode with the cavity, but also because the dilatation allows the secretions to escape from the cavity and the electrode comes more closely into relation with the lining membrane than when it is protected by a coating of the secretions.

It may readily be seen that a thorough familiarity with the details of the application is necessary to insure success, and it would be unreasonable to expect it in the absence of a perfect understanding of the requirements of each individual case.

If the case be one where the bleeding is not excessive and the uterine canal is small throughout its entire length, a few positive galvanic applications with the platinum sound exposed from the external os to the fundus, and with a current of from 50 to 100 milliampères used for five minutes every second day, will suffice to control it; because in this instance, the electrode, although of small

[1] Read before the New York Academy of Medicine, Section on Gynecology and Obstetrics, January 22, 1891.

calibre, comes sufficiently in contact with the walls of the cavity to produce effective cauterization. Even in some instances where the bleeding is excessive, if the canal is narrow, this method of application will be effective, though it may sometimes be necessary to increase the strength of the current to 150 milliampères. The treatment is not to be discontinued as soon as the bleeding is checked, but should be repeated once or twice a week, using a milder dose, and the case should be kept under observation until it is certain that a cure has been effected. And any existing cause constituting the primary disorder must receive appropriate treatment also. An antiseptic douche of creolin solution should precede and follow each application.

Whenever the bleeding is excessive or the uterine cavity is large, it will be necessary to resort to sectional cauterization, which is at once more thorough and effective than the other method. It is done in this manner, viz.: Selecting an electrode suitable for the positive pole (carbon or the prepared steel) of such a size as will fit the cavity snugly and about three-fourths of an inch in length, it is passed up to the fundus along the finger as a guide, the patient being in the dorsal position, and a large clay electrode on the abdomen, the current is turned on and increased gradually until 100 or 150 milliampères is reached at the first sitting if possible and the case is urgent. (And if the uterus is insensitive, as is often the case in fibroids, the dose may be pushed still farther if it is required.) The electrode is held firmly against the fundus by the operator for from three to five minutes. Then, without turning down the current, it is withdrawn the length of the exposed surface, as represented by the distance between the notches on the insulated shaft of the instrument and can be felt by the finger in the vagina against the cervix, which brings the acting surface of the electrode in contact with a fresh portion of the cavity. Severe pain will sometimes be produced by this change of position, but it is only momentary and will usually subside without altering the strength of the current. If it should not, however, the current may be turned down to a bearable point and again increased. This manœuvre is repeated until the whole surface is gone over and the internal os is reached, when the current is turned off slowly and the electrode removed. If thoroughly done, this application need not be repeated for a week, and unless it is necessary to prevent intercourse a tampon is not used, but the vagina is douched with an antiseptic solution. The tampon, if used, should consist of a long, narrow strip of creolin or iodoform gauze placed loosely in the vagina and allowed to project a little outside the vulva, and should be removed within twenty-four or thirty-six hours.

If the subsequent behavior of the case demands it, this cauterization may be repeated every three days until the bleeding is stopped. It is advisable to continue weekly applications with the platinum sound until one or two normal menstruations have passed to make sure the result, unless the causative condition demands other treatment which would interfere. When the action of the negative pole is called for in treating the primary disease after the hemorrhage is controlled, it can generally be used without risk of provoking its return.

The rules laid down above will apply to this symptom occurring in connection with all conditions which give rise to it, but when there is a fungus endometritis, the result will be more promptly obtained if a thorough curetting of the cavity precedes the chemical galvano-cauterization. A mild cauterization of from 60 to 100 milliampères, may immediately follow this operation, or it may be delayed until the effect of the operation has passed off. Oftentimes, however, positive cauterization will prove effective when one or more curettings alone have proved unavailing. And where this operation is contraindicated the cauterization may be depended upon to do its work effectively.

When hemorrhage follows abortion, the curette should always be used first to remove all retained debris, and positive cauterization may be permissible subsequently if the hemorrhage is persistent.

When it is due to the pressure in the uterus of polypi or submucous fibroids it is not good treatment to use galvanism until they are removed. Then thorough cauterization of the endometrium will prevent a return.

In submucous fibroids where their removal is not possible, galvano-chemical cauterization (positive) will prove beneficial and effective in controlling hemorrhage.

A great advantage in favor of this treatment is that it does not necessitate confinement to bed, and it can generally be carried out at the office. If, however, the bleeding or the condition is such as to compel the recumbent posture, the treatment must be given at the bed-side, but it will entail a very much shorter period of rest than any other treatment.

The chemical galvano-cauterization has been suggested for the control of the hemorrhage due to uterine cancer, and also for the destruction of the diseased tissues, but the galvano-caustic wire is so much quicker and more effective, that I see no reason for its advocacy. The very strong currents necessary to produce a reliable effect (and a very much higher power than is generally used is needed) would prove a barrier to its use, unless some means is discovered for administering it in such doses with safety.

I will relate briefly the histories of two cases where this method of treatment was successful after the curette had failed, and I have selected these from among many because they were the most obstinate I have had to deal with.

Case I.—Miss S——, aged forty-two, puberty at fourteen; menstruation regular and normal until six years ago when she began to have menorrhagia and a burning pain in the left side of the pelvis.

Dr. Banks, of Englewood, who sent her to me, curetted the uterus freely with only temporary benefit. She was only a little better for two months. At the time he sent her to me for treatment, October, 1889, the uterus was enlarged, measured three and a half inches, was sensitive and not freely movable, there being a contraction of the left broad ligament, drawing it to that side, and there was metritis and endometritis. She was losing blood constantly, never stopping for more than two days at a time.

She received thirty-six positive galvano caustic applications to the uterine cavity, varying in strength from 50 to 150 milliampères. Only three of these were sectional cauterizations. The treatment extended over a period from October to June. She began to menstruate regularly in December, and it was twenty-eight or thirty days since the last period and the duration was three days. From that time until June the interval was twenty eight days, and the duration of the period two to three days.

June 30th, when the thirty-sixth application was made, I find this note in my case-book: "Uterus is the size of the virgin organ, measures two and a half inches, is movable and not sensitive, no ovarian pain."

She has been kept under observation since then by my friend, Dr. Banks, who assures me she is still menstruating normally, and has had no return of the pain of the left side. The whole treatment was carried out at the office.

Case II.—Mrs. V——, aged twenty-four, married three years. She was regular from puberty, though rather free until her marriage, when menstruation began to appear every two weeks and was prolonged for nine or ten days.

After consulting several physicians, who treated her by medicines, and not locally, she, by the advice of some friends, consulted a prominent gynecologist of this city and entered his sanitarium for the purpose of an operation.

In November, 1889, she was put under an anæsthetic. The cervix was dilated with such force as to split it, but this was promptly sewed up. The cavity was then very thoroughly curetted, we must believe with a sharp curette, for he is one very prone to use this instrument. She left

the sanitarium December 10th, and the first menstruation after the operation began December 25th, lasting for a week. In January her menstruation appeared the 19th, and continued as a bloody discharge until the 28th, when it commenced freely and lasting until February 16th, it made its appearance again February 20th, and continued as a hemorrhage until the 28th. After that date it continued as a bloody discharge until the time she consulted me, March 10th. She discontinued her attendance because he proposed another operation.

On examination I found a slightly enlarged sensitive uterus, normal in position, but fixed. To the right, and somewhat posterior to the uterus, could be felt a slightly enlarged, very sensitive, prolapsed ovary. I commenced treatment with the platinum electrode to the whole length of the canal and 50 milliampères, of five minutes' duration, three times a week. This was soon increased to 100 milliampères, but at no time did it exceed that figure. The duration of the treatment was from March 10, 1890, until about August 1st. I succeeded in checking the slight flow at once, and her regular menstruation appeared on the 19th and lasted until the 24th. During the remainder of the treatment her menstruation never appeared under twenty-eight days, and frequently went a week over the time, and its duration was never more than from three to five days. She had forty positive galvano-caustic applications to the canal during that time, and out of this number I gave only two sectional cauterizations of 50 milliampères. During the course of the treatment she received two positive galvano-punctures into the sensitive ovary of 30 milliampères each, and of five minutes' duration. She has been kept under observation since August, and has had an occasional application merely to make sure the result, but for the past month she has had no treatment, and her last menstruation was normal. The uterus is somewhat more movable than it was before, and the ovary, while it still remains where it was, is scarcely sensitive. She can attend to her usual household duties, walk, and ride without the inconvenience which she experienced before, and considers herself entirely well.

I am tempted to, and will, relate another case which will show how hemorrhage from the uterus with a fibroid can sometimes be very promptly arrested.

I was asked by Dr. F. H. Markoe, one day last July, to see a case of his in St. Luke's Hospital and to treat her there, because he wished to see what value there was in electricity for controlling hemorrhage. It was a case of bleeding fibroid, and she had been losing blood for a long time. The flow, which was at first intermittent, had now become constant, and she was blanched from loss of blood. I commenced with a platinum sound in the canal to give her positive galvano-caustic applications of 50 milliampères, five minutes each time. This in the midst of the hemorrhage. The applications were repeated twice a week. In less than ten days the hemorrhage ceased entirely. Afterward the strength was increased to 100 milliampères. The reason for this rapid action upon the uterine canal with a platinum sound was because the canal was very small and tortuous, and the electrode passed the full length of the canal, four and a half inches, and fitted it so as to produce effective cauterization on all sides.

She remained some time in the hospital, perhaps two months, during which time she received treatment for the fibroid. Not even normal menstruation reappeared. I gave her several applications of the negative pole during the time without causing any reappearance of the hemorrhage. After she left the hospital I kept her under observation, and up to this date—and I see her weekly—there has been no return whatever of the flow, nor even of menstruation, and I have, since she left the hospital, repeatedly used 150 milliampères negative to the canal for five minutes at a time. She is improving, and the tumor is reducing in size.

This last case shows that in those cases of bleeding fibroids the hemorrhage can be positively controlled by the positive pole used properly. It also leads us to suppose that possibly we may arrest menstruation completely in some cases, if not in all, and thus bring about an artificial menopause, which is considered a desideratum in all fibroids.

351 West Fifty-seventh Street.

REPORT OF THREE CASES OF NEPHRECTOMY.

By F. KAMMERER, M.D.,

SURGEON TO THE GERMAN AND ST. FRANCIS HOSPITALS, NEW YORK.

I HAVE ventured to present to the Section on Surgery the following cases of nephrectomy as possessing a few points of special interest.

CASE I.—T. R——, aged twenty-nine; married at eighteen; has had two miscarriages. No history of tuberculosis or syphilis. Has been ailing since her last miscarriage, three years ago, and her sufferings (pelvic pain, irregularity in the functions of rectum and bladder) have gradually increased so that she is unable to do any work. On admission to the hospital the patient's general condition was very low; the abdomen was very sensitive to pressure, especially in the right iliac region. Under anæsthesia a fluctuating tumor the size of an orange was made out to the right of the uterus, firmly imbedded in adhesions; the ovary on this side was not detected. The left ovary and tube were similarly affected but in a less marked degree. I diagnosed double pyosalpinx, with pelvic peritonitis. As the condition of the patient demanded operative interference the ovaries and tubes were removed on August 6, 1890. The operation was very tedious and difficult, owing to the adhesions and infiltration. The lower part of the small intestine was firmly attached to the mass representing the right ovary and tube, and had to be cut away. Many ligatures were necessary before the mass could be removed. The removal of the left appendages was more easily accomplished. The abdominal incision was closed with the exception of its lower angle, from which an iodoform gauze tampon, packed into the pelvis, protruded. At the end of forty-eight hours this was removed and the abdomen closed. During the first few days there was a considerable rise of temperature, but this quickly subsided, and the patient seemed to recover slowly. On August 18th the abdominal sutures were removed. On the 23d the patient, who had been feeling uneasy for several days, began to develop symptoms of ileus. Temperature, 103.6° F. The abdomen was distended and tympanitic, excepting the right lumbar region, where dulness on percussion, extending to the lower angle of the abdominal incision and somewhat to the left, was noted. I concluded that a loop of intestine had become adherent at this point, and therefore decided on re-opening the abdomen, more so as vomiting, distinctly fecal in character, had set in. Careful dissection at the lower angle of the cicatrix showed that no intestine was adherent at this point but that the area of dulness corresponded to a part of the peritoneal cavity, shut off by adhesions, from which a large quantity of sero-purulent fluid escaped with a distinctly urinous odor. In the further course of the case an abdominal urinary fistula persisted When the bladder was injected with fluid a steady stream would, at the beginning of this procedure, flow from the fistula, but this ceased when the viscus was fully distended, proving that the fistula was of the ureter and not of the bladder. An examination with the cystoscope dispelled any doubt as to which ureter was affected. From the left urethral orifice, urine was seen to flow into the bladder at intervals of from two to three minutes, and in a continuous stream when pressure was exerted on the kidney. No urine came from the right ureter, either spontaneously or upon pressure on the corresponding kidney. The quantity of urine passed by the urethra was

about twenty-five ounces in twenty-four hours, of normal quality, evidently secreted by the left kidney only.

On September 7th the patient was taken with a chill and subsequently had high temperatures. Puncture in the lumbar region demonstrated the existence of a large perinephritic abscess. Assuming that the existing condition would prove a constant source of danger to the patient, I decided to remove the right kidney. The lumbar incision was practised, and the abscess at the lower pole of the kidney first incised and thoroughly disinfected. Only at this point did the enucleation of the kidney present any difficulties. A small rent in the peritoneum was immediately closed with a running catgut suture, giving rise to no further trouble. After ligation of the pedicle en masse, the wound cavity was plugged with iodoform gauze. Recovery was uneventful. The removed kidney was entirely healthy; within two weeks the remaining kidney secreted about fifty ounces of urine in twenty-four hours. During this time traces of albumin were frequently found, but no blood or casts.

Case II.—K. D——, aged twenty-eight, gives a family history of tuberculosis. Six years ago she had an attack of pleurisy; two years ago suppuration of cervical glands. About a year ago pain set in in the left lumbar region and the back, and the urine became gradually turbid. When she first consulted me last summer, she was very much emaciated. At the site of the left kidney a tumor was felt about twice the size of a normal kidney and somewhat tender on pressure. The urine contained pus, but no tubercle bacilli. As aspiration demonstrated the presence of pus, I exposed the organ by the lumbar method, and made a free incision into the cortex of the kidney. The condition of the patient was too critical for nephrectomy. During the succeeding four months the wound gradually closed, but a renal fistula remained, secreting much pus and urine. An examination with the cystoscope revealed the fact that no fluid entered the bladder from the left ureter, but pus when firm pressure was exerted upon the corresponding kidney. Apparently clear urine emptied into the bladder from the right ureter. Of late there had been a rise of temperature in the evening from 101° to 103° F., and a reformation of the tumor corresponding to the left kidney. The patient's condition being good, I now decided to remove the kidney. There was no great difficulty in isolating it from the surrounding structures. When the pedicle was exposed, it was found that the ureter and pelvis were thoroughly implicated in the disease. I placed a strong silk ligature around the pedicle and cut away the kidney, leaving quite some of the degenerated substance on the distal side of the ligature. During further manipulations, however, this tissue broke down and the ligature slipped. This was fortunately detected before any serious hemorrhage occurred. The pedicle was caught with four artery forceps, which were included in the dressing and removed on the fifth day, no further mishap occurring. The wound is almost entirely closed to-day, but the urine still contains some pus.

Case III.—B. P——, a married lady, aged thirty-four. Eight years ago, after childbirth, she was first taken with pain in the left side. Four years ago she was treated in Denver, Col., for some kidney trouble, causing œdema of the entire body that persisted for several months. More especially since this attack she has been suffering from pain in the region of the left kidney, and has experienced a feeling of numbness in the left lower limb. A year ago she first noticed a tumor on the left side, which has been increasing rapidly during the past few months. I saw her about a month ago. Through the lax and thin abdominal walls a tumor was felt to occupy the left lumbar and hypochondriac regions. It was as large as a child's head, and reached fully to the median line. Firm and hard to the touch, it had a slightly uneven surface. It was somewhat movable and was apparently nowhere adherent to the lateral or anterior abdominal walls. It was readily recognized as belonging to the kidney, by inflating the descending colon from the rectum, the colon passing over and somewhat to the outside of the tumor. The urine was acid and contained a small amount of pus. During cystoscopy firm pressure on the tumor caused the escape of distinctly turbid urine from the left ureter. Urine was also seen to escape from the right ureter, but no very satisfactory information regarding its quality and quantity was obtained. The appearance of the growth, its rapid increase in size, its tenderness, and the small quantity of pus in the urine, all in combination with a negative result of an exploratory puncture of the tumor, led me to the diagnosis rather of a growth than of suppurative disease of the kidney. On account of doubts still entertained as to the diagnosis, I decided upon the lumbar in preference to the abdominal incision. I came upon a fibrous capsule, fully an inch thick in some parts; after cutting through it the kidney was found firmly adherent to it. It proved a very difficult matter to peel out the kidney from its capsule, and during the necessary manipulations the tumor burst, and from the rent in the kidney about a pint of turbid urine escaped. Introducing my finger into the opening, I readily detected a stone in the lower part of the pelvis. Finally, the pedicle was reached and severed, the vessels being ligated as they were cut. The A. C. E. mixture was employed as an anæsthetic, the patient's condition being considered too low for the exhibition of chloroform only. The temperature was normal after operation, and her general condition at first gave fair hopes of a speedy recovery. Unfortunately, however, she died on the third day from complete suppression of urine. An autopsy was not permitted, but the other kidney was felt at its normal location through the operating wound, and appeared to me and two gentlemen of the house-staff of the German Hospital of normal size.

Quite a number of cases have been reported, in which nephrectomy has been done for the relief of urinary fistula, generally with favorable result. I was surprised to find only three cases[1] of uretero-abdominal fistula among them, as injury to the ureters during difficult abdominal operations seems to have occasionally occurred. In such cases, when the mishap is discovered at the operation, attempts have been made to transplant the divided end of the ureter to some part of the abdominal walls, or nephrectomy has been resorted to. In Simoni's case it is simply stated that an abdominal fistula developed, but in Le Fort's, the result of a stab-wound, we are informed that the external wound was closed, and that on the fourth day only symptoms of localized peritonitis set in. At the end of another week there was dulness on percussion of the right side of the abdomen. Eighteen days after the trauma distinct fluctuation was felt, and an incision above the inguinal fold gave exit to a large quantity of fluid, and established a uretero abdominal fistula. Nephrectomy unfortunately resulted in death. In this case the ureter must have been cut at the time of the accident, and it is remarkable that only after so long an interval did the accumulation of urine become noticeable within a circumscribed portion of the abdominal cavity. There was no escape of urine by way of the abdominal tampon in our case during the first days succeeding the removal of the appendages. It is therefore safe to assume that the ureter had been included in one of the many ligatures en masse, and divided below it. Later on, when the general peritoneal cavity was shut off by adhesions, the ligature gave way under pressure of the accumulation of urine in the pelvis of the kidney. But then the dangers of peritoneal infection no more existed. Might this experience not be utilized in cases of injury to the ureters during abdominal operations, when the condition of the patient counter indicates immediate nephrectomy. Close the ureter with a ligature or a forceps, temporarily, and introduce a tampon into the

[1] G. Simoni: Chirurgie der Nieren. 1871. L. Le Fort: Bulletin de l'Académie de Méd., 1880. L. Bertini: Bullet. della R. Acad. Med. di Roma. Anno xv., No. 8.

abdominal cavity to the point where the ureter has been divided. Later on, when the patient has rallied and a urinary fistula persists, nephrectomy will prove a simple procedure.

In the case of tubercular kidney which I have reported previously, nephrotomy had a double purpose. Contrary to the experience of Madelung,[1] and in accordance with what has been observed by other surgeons, the patient gained over twenty-five pounds in weight in a few months. Furthermore, I was only enabled after a renal fistula had been established to determine that the right kidney was also slightly affected. Cystoscopy was resorted to before and after nephrotomy. The urine issuing from the right ureter at both times was thought to be clear. I am positively convinced that after nephrotomy no urine passed down the diseased ureter into the bladder. The large quantity coming away by the renal fistula, measurements of the urine from the other kidney extended throughout several days, and especially cystoscopic examination, during which the ureter of the nephrotomized kidney was watched on many occasions as long as the very willing and plucky patient could endure, left no doubts as to the certainty of this observation. Besides only on firm pressure on the kidney did pure pus escape from the ureter into the bladder. This was explained during nephrectomy. The ureter was found converted into a thickened strand as far as it could be felt, evidently occluded by tubercular masses. I do not wish to conclude from this one experience that nephrotomy will always prove successful in establishing complete drainage of the urine from the affected kidney, but, if we can verify this with the cystoscope, then the diagnostic importance of nephrotomy in determining the condition of the other kidney cannot be disputed. While firmly believing in the great value of cystoscopy, especially in diseases of the bladder, I have not myself been so fortunate in the diagnosis of kidney troubles with the cystoscope.

In the last case reported to-day I was not quite sure whether the urine from the right ureter was clear or not. In two other cases of tubercular disease I was not able to get a clear view of the bladder, from the fact that the water injected immediately became turbid. In both these cases I resorted to explorative epicystotomy, with the most gratifying results for myself and the patients. With the aid of an electric lamp introduced into the bladder I was enabled to determine the implication of both kidneys in one instance, and the extended tubercular disease of the bladder and of one kidney in the other. Considering its simplicity as a surgical procedure, its value as a diagnostic aid, the relief to the patient with irritable bladder from infrapubic drainage, epicystotomy as recommended by Schede ought to be more frequently resorted to in these cases. Aside from the more conspicuous lesion of which we become aware with the diagnostic methods already alluded to, there are pathological changes in the kidney which affect its secreting power, of which we gain no knowledge by simple determination of the quantity of urine secreted and by its microscopic examination. A person in apparent perfect health may have serious kidney trouble, which can only be detected by a quantitative analysis of his urine. Tuffier[2] has given surgeons some valuable advice on this point. In an admirable essay he has demonstrated that regeneration of renal substance takes place to almost an unlimited extent, even after removal of one entire kidney and part of the remaining organ, if only a certain amount of perfectly normal renal tissue is left in the body. But if there exists a general disease of both kidneys, no such regeneration takes place, and surgical interference with such organs is followed by most disastrous consequences. I have looked through Newman's[3] statistics of nephrectomies and I believe have found clinical corroboration of Tuffier's experiments. The author has collected fifty-four deaths after lumbar nephrectomy, of which 7 were due to suppression of urine and uræmia. These 7 occurred, 1 in hydronephrosis, 2 in suppurative disease without calculus, 3 in suppurative disease with calculus and 1 in tubercular disease; no deaths from suppression after lumbar nephrectomies for movable kidneys, cystic kidney, traumatic lesions or tumors (his statistics of abdominal nephrectomy do not allow similar conclusions; however, I prefer to place reliance rather on those operations when the element of peritoneal sepsis is entirely out of question. May not some of the deaths from suppression and uræmia after the abdominal method be due rather to such a cause?). In other words, suppression of urine in all those affections liable to attack both kidneys. We all know that following nephrectomy there is a partial suppression, lasting a day or more, in almost every case. This is in all probability of a reflex nature and temporary. But if the remaining kidney does not resume its functions and the patient dies of uræmia I fear we must admit that this organ was also diseased at the time of surgical interference, that our diagnostic resources have failed to decide this point, and that nephrectomy was not a justifiable procedure.

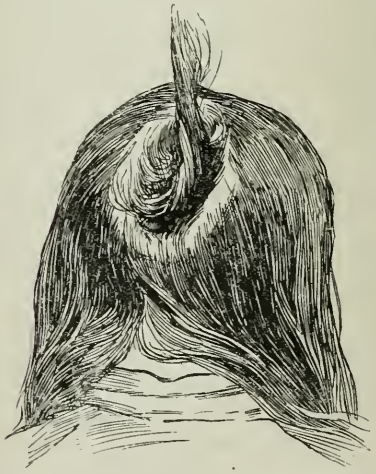
[1] Archiv für Klin. Chirurgie, vol. xxxi.
[2] Tuffier: Études expérimentales sur la clinique du rein, 1889.
[3] Newman: On Diseases of the Kidney Amenable to Surgical Treatment, 1889.

CASE OF TRAUMATIC EPILEPSY.

By J. ELVIN COURTNEY, M.D.,
ASSISTANT PHYSICIAN, STATE HOSPITAL, POUGHKEEPSIE, NEW YORK.

THIS case is reported especially on account of the great injury to the skull in early life and extensive exposure of motor areas of the cortex to slight traumatic influences, and also as illustrating generally some features of epilepsy.

Dora B——, aged four months, fell fifteen feet, striking her head. A large swelling in the occipito-parietal region was found, and there was a state of profound coma for three days. The injury seems to have been an inversion of the angles of the bones forming the posterior



fontanelle. The deformity caused, even after subsidence of the swelling, was so great that the mother devised a cap to hide it. Nothing untoward occurred until the age of two years, when she fell from a swing, striking the back of her head, when she was again comatose for two days, and for several days there was an enlargement at the seat of original injury. The family physician noticed that gentle pressure on this protuberance caused the child to close its eyes as if asleep. At the age of five she was

struck on the head by a playfellow, and for the first time had several severe epileptic convulsions. After this ordinary epileptic seizures occurred at intervals of from six months to two years until puberty, fourteen years But the parents say that no fit occurred without a fall or some accidental hurt to the injured place. and that she guarded it with instinctive care. She was well developed, apt at school, and helpful at home. Fits now occurred one every two or three years, without assignable external cause, and epigastric aura began. She described a "drawing" and "lump" in the left side. So distinct was this that the parents decided there must be a "tumor" there. She could usually foretell the fit long enough to betake herself to bed. Attacks of petit mal were frequent, usually after a hearty meal; she would then sit or lie down for a few minutes. At the age of nineteen, after several severe fits, she had a maniacal outbreak and was sent to the hospital at Poughkeepsie, where she remained eight months, making a good recovery and having only one fit during the time. For the next two years the fits were more frequent, one every three or four months, and attacks of petit mal were very frequent. At the age of twenty-two she was in status epilepticus for two hours. This was followed by partial left paraplegia and a state of such utter confusion that she was readmitted to the hospital. The elongation of the skull was noticeable, especially on the left. It seemed that the separated parietal angles had grown backward instead of in the natural rounded direction. A photograph (page 370) taken then shows the depression with the well-defined margin. The measurements were: antero-posteriorly, 5¼ inches; transversely at the middle, 2½ inches. The scalp fell into the opening ¾ inch below the margin. The bony margin had an inward slant, but it was evident that over a considerable area the brain had no other protection than the scalp and its aponeurosis. The hebetude following the status epilepticus soon passed off and no mental deterioration remained. Her care of the "soft place" was jealous; she would not allow the nurse to touch the hair over it, and always kept her hand on the wrist of any one examining the place. For two months after readmission nothing notable happened. At noon one day she suddenly told the nurse that she had "that feeling" in her side, and hastened to bed. She immediately passed into status epilepticus, convulsions succeeding each other very rapidly, and died of asphyxia, in four hours. During the fits it was noticed that, while the motor storm rapidly involved all the muscles, it began on the left, and the sequence of the involvement of muscles indicated that the discharge began in the injured area. The scalp over the opening, from being flaccid, became bulged and quite tense, becoming less so at the end of each tonic stage, but not entirely subsiding in the short intervals between the fits. The parents had noticed this "swelling" of the scalp over the opening when the fits came on. Permission could only be obtained to examine the opening. In retracting the scalp care had to be used to prevent tearing into the cavity. The covering removed was only the aponeurosis of the scalp. It was opened and showed a free serous surface. The exposed part of the brain lay between the fissure of Rolando and the occipito-parietal fissure of the right hemisphere. About two-thirds of the opening lay to the right of the median line. The bone was thickened and had grown from the inner table, especially at the front and back, so that the antero-posterior measurement was only 2⅜ inches on the inside. Across this space stretched delicate bands, probably the remains of dura mater. The brain was not flush with the inner margin of the opening, there being some atrophy and flattening of the convolutions. The falx cerebri was somewhat deflected to the left. About an ounce of cerebro-spinal fluid was in the cavity. The vessels of the pia were greatly engorged. It is to be remarked in this case, 1. That from this extensive trauma in infancy, no fits occurred until the age of five years, and none without external injury until puberty, and that epigastric aura and petit mal appeared at that period. 2. The indication of cerebral engorgement during the fits, the cerebro-spinal fluid being strongly forced out through the opening during the clonic stage, lightly distending the scalp, and then gradually subsiding. 3. The greater frequency and violence of the seizures, and at last status epilepticus, at the age when hyperplasia of bone about the margin of the opening in the skull and complete ossification, offered unyielding obstruction to further brain expansion.

Progress of Medical Science.

Microbic Groupings.—Drs. Babès and Cornil call attention to the following: 1. Association of closely allied varieties of the same species, as, for example, the varieties of the microbe of pulmonitis and the bacillus of typhoid fever, respectively. 2. The almost constant association of one microbe with another in a given disease, as the streptococcus and the bacillus of diphtheria, the microbe of Schütz, and that of hemorrhagic septicæmia in equine typhoid fever. 3. Association in traumatic affections of microbes having equal pathogenic power, as, for example, association of various species of streptococci with one or more of the staphylococci. 4. Accidental association of septic or pyæmic microbes with the microbes of the infectious diseases—typhoid fever, cholera, etc. 5. Association in which the second microbe remains localized, and does not enter into the lesions and symptoms of the original disease. 6. Association in which the secondary microbe dominates; for example, a broncho-pneumonitis in an old localized case of tuberculosis, or miliary tuberculosis following whooping-cough. 7. Association of a pathogenic microbe with another microbe which is habitually innocuous, giving rise to a specific disease. In this group belong certain manifestations of pulmonary gangrene, due chiefly to the staphylococcus aureus united to pathogenic microbes. 8. Association of bacteria with the parasites of bacteria. Such is the association of the bacillus of tuberculosis with the aspergillus fumigatus. 9. Bacteria and tumors. Tumors are the chosen seat of the bacteria. The parasitic nature of epithelial tumors cannot, however, be demonstrated. 10. Association of various parasites of the bacteria with pulmonary mycosis.—*Rivista Internazionale D'Igiene.*

Antifebrin in Soft and Hard Chancre.—Dr. Bazilevitch warmly recommends the treatment of soft and hard chancre by freely powdering it with antifebrin twice daily (every morning and evening). He describes a case of Hunterian chancre in a man of twenty-three, where the ulcer became strikingly cleaner on the third day of the treatment, to completely cicatrize in ten days. In another case, referring to a man aged thirty-six with a large soft chancre, the latter assumed a healthier appearance on the fourth day. On the seventh there appeared sound granulations, the ulcer kindly healing in the beginning of the third week. Similarly good results were also obtained in a case of a woman, aged twenty-five, with hard chancre of the minor labium and uterine cervix. The advantages claimed for the method are these: 1. The lesions heal comparatively very quickly. 2. The remedy is very cheap. 3. It is entirely free from odor. 4. Even when used externally in "enormous" quantities it does not give rise to any toxic or disagreeable phenomena.—*St. Louis Medical and Surgical Journal.*

Cystinuria.—At a recent meeting of the Royal Academy of Medicine in Ireland, Dr. Walter G. Smith read a paper on "Cystinuria." The condition, he said, is a rare one, and scarcely seventy cases are upon record. A boy, aged eight, was reported by his mother to have passed urine of a fragrant, orris-root odor, and depositing a greenish sediment. The boy's health was excellent in all respects, and there were no symptoms of urinary irritation.

Out of six occasions upon which the child's urine was examined, once only was cystin found. The crystals were identified by their form, solubility in ammonia, and insolubility in acetic acid. The true formula of cystin is $(C_3H_6NSO_2)_2$. Dr. Smith discussed in some detail our present knowledge of the physiology and pathology of cystin. The following summary may be given: 1. Cystin, or a cystin-like body, occurs in small amount in human urine as a normal product of proteid metabolism. 2. No relationship exists between uric acid and cystin. 3. Associated with cystinuria, pathologically, is the occurrence, in the urine and fæces, of certain ptomaïnes, belonging to the class of diamines, viz.: (*a*) Penta-methylene diamine (Cadaverin), $C_5H_{14}N_2$; (*b*) tetra-methylene-diamine (Putrescin), $C_4H_{12}N_2$. 4. Normal urine and fæces never contain diamines, nor do they occur in cystin calculi. 5. The formation of diamines is due to the agency of specific bacteria in the intestine. 6. The exact nature of the correlation between cystinuria and diaminuria has not yet been determined. 7. Cystinuria may persist for years without apparent injury to the health of the patient. 8. The therapeutical indication is to disinfect the contents of the bowel.—*Dublin Medical Journal.*

Uratosis.—The term uratosis has been suggested by Sir William Roberts to designate that disordered state of nutrition characterized by the deposition of the crystalline urates in the tissues or fluids of the body. By adopting this nomenclature, several advantages, it is claimed, would follow. First, a distinction would be clearly drawn between the effects of an excess of uric acid in the blood and uric acid precipitated as crystalline urate. What, if any, pathological significance the former condition has is at present unknown. The serious consequences following the latter state are well recognized. Excess of uric acid in the blood is only an exaggeration of a normal state, while deposition of crystalline urates is, in any quantity, a pathological condition. Another advantage claimed is that we would be better able to estimate the relation between the different causes that give rise to uratic deposits. When speaking of "ordinary" gout and "saturnine" gout, we use terms which, in the opinion of Sir William Roberts, would be more truly expressed by "gouty uratosis" and "saturnine uratosis." It being much more likely that the gouty diathesis and lead-poisoning, while differing in other respects, have one tendency or vice in common, viz., the tendency to the deposition of the crystalline urates, or uratosis. The separation of the effects of the deposition of the crystalline urates from simple increase of uric acid in the blood is of importance from a therapeutic point of view. In the former the danger of precipitation, especially in the kidneys, is of a very grave character and calls for immediate treatment. By the employment of alkaline remedies, we are enabled to postpone for a long period this deposition, and thereby gain time which should be employed in combating the essential cause.—*Montreal Medical Journal.*

Treatment of Varicocele.—In a paper read before the Southern Surgical and Gynecological Association, Dr. Lydston, of Chicago, gave the following indications for operation in this disease: 1. Severe dragging pain and reflex neuralgia. 2. Impotence, pseudo or real. 3. Ineligibility for public service, such as army and navy, in some cases. 4. Severe scrotal eczema. 5. Mechanical impediment to manual labor. 6. Noticeable and conspicuous deformity.

The ideal operation for moderate-sized varicoceles is resection of the scrotum. For large varicoceles, it is resection of scrotum with preliminary ligation of the veins high up in their straight portion. Large varicoceles operated upon by resection of the scrotum tend to recur even when the operation is very thoroughly done, hence the author advocates the combined operation. Subcutaneous ligation he believes to be objectionable. The author related a case of hæmidrosis of the scrotum due to varicocele. Subcutaneous ligation was done in this case, and at the same time a urethrotomy was performed. Hemorrhage from the urethra was severe, and lasted for several days. Dr. Lydston believes that varicocele is essentially due to a general tropho-neurotic state, and is inclined to think that the causative rôle of masturbation has been assigned undue importance. Thirty-five operations have been done by Dr. Lydston; with, in the main, excellent results and no deaths. Two cases of resection of the scrotum have recurred. The author insists that too much tissue cannot be removed, and makes use of King's clamp. The cautery operation of Pearce Gould is condemned as the most dangerous yet devised. Dr. Lydston urges the observance of rigid asepsis in all operations on varicocele. —*Virginia Medical Monthly.*

Medicine among the Mongols.—In Mongolia the practice of medicine rests chiefly with the priests or Buddhist lamas, whose system is quite elaborate, but based for the most part on superstition. Instead of paying occasional visits to the patient, their method is to reside in his house until recovery or death takes place, or the case is decided to be incurable. The people have great confidence in drugs and medical regimen, including the water-cure, the latter object causing them to resort to springs, both hot and cold, that are somewhat abundant in Mongolia and Northern China. They place implicit confidence in the medical knowledge of the foreign missionaries who visit their inhospitable country, but express wonder and astonishment when their proffered recompense is refused by the latter. A very frequent affection among the Mongols is the itch, due in a large degree to their repugnance to the washing of either their persons or garments. In their tents they live so closely together that if one of them gets the itch all soon have it. Various other skin diseases are prevalent among them. Rheumatism is of frequent occurrence, and the remedy largely used for that trouble consists of kneading, or a kind of massage; they make use of a "rheumatism stick," a piece of wood so bent that any part of the body can be reached by the patients in their self-application of the kneading process. A peculiar disease called narry, due to their indulgence in their native spirituous liquor, is frequent; the stomach becoming intolerant of food, so that the patient ultimately dies of starvation. For the bite of a dog they apply to the wound a portion of the fur of the animal; literally, "the hair of the dog" is their remedy. They use the loadstone in powdered form as a cure for ulcers, deafness, etc. They attribute many diseases to the influence of the planets and constellations, to offences committed, and to fate. Hygiene or preventive measures do not enter much into their scheme of treatment.—*The Medical Press.*

Observations on Human Peristalsis.—Professor Rossbach has arrived at the following conclusions from a careful study of the intestinal movements in man. 1. In the early morning hours the intestinal peristalsis, as well as the gastric movements, appeared to be at rest. 2. As soon as food is taken into the empty stomach and passes thence into the intestine, an evident peristalsis begins, alternating with intervals of quiet. Sometimes the movements begin within a quarter of an hour. 3. No difference could be perceived in the intensity of action of different articles of diet upon the intestinal movements, except that coffee, whether taken fasting or after midday meal, almost always produced the strongest peristalsis. 4. In general the irritability of the intestine appeared to have grown very slight by evening, since often no peristalsis was to be observed either immediately or for a long time after the ingestion of the evening meal. 5. Except as mentioned, there appears to be no regularity in the intestinal peristalsis. The movements may be present before, during, or after a meal; may be marked or slight; may develop at once after eating, or only after one to two hours. 6. The peristaltic motion never lasts long with the same intensity. Large waves

alternate with small ones, or with intervals of rest. These observations apply to the intestine under the influence of ordinary nourishment only. The author has examined also the effect of various agents upon the movements, with the following results: 1. Slight degrees of cold, as the mere exposure of the abdomen, produce peristalsis after a few minutes, or strengthen it if already present. 2. Greater degrees of cold, as sprinkling the abdomen with cold water, likewise increase the peristalsis only in slight degree. 3. The drinking of cold water produces at once a lively peristalsis. 4. Rubbing the abdominal walls has no effect. 5. Moderate pressure in the space between the two *recti abdominis* is followed by an unusually active movement. 6. Pressure and squeezing of the intestine itself produces no movement. 7. After coughing the peristalsis becomes evidently stronger during a considerable time. 8. Through pressing (evacuation of the bowels) an increased peristalsis is produced. 9. Respiration does not cause an active peristalsis to cease, but a prolonged holding of the breath does have this effect, though the movements returned later. 10. Purgation, accomplished by means of enemata, develops very violent peristaltic movements, accompanied by rumbling and distention of the abdomen. 11. One to two drachms of castor-oil taken internally have no effect upon the bowel during the first half-hour, but then develop active peristalsis combined with rumbling in the abdomen. 12. Intense sensations of hunger always occasion active peristalsis. 13. The excitement of the emotions (as moderate fright, the sudden refusal to allow the patient to eat when hungry, etc.) causes the immediate disappearance of peristalsis, even when strong. After five to ten minutes the movements return. 14. The employment of electrical irritation produces very varying results. (*a*) The faradic current applied to different parts brought out or strengthened peristalsis in a few cases, but its action was very inconstant. (*b*) The galvanic current in like manner usually produces no, or but slight, peristalsis, and only in a few instances, when applied through the rectum, succeeded in developing active movements.—*Deutsches Archiv für Klinische Medizin.*

Hahn's Method of Performing Gastrostomy.—Dr. Eugene Hahn describes his method of performing gastrostomy by fixing the stomach in the eighth intercostal space. He first did the operation in June, 1887. Since then he has performed eight operations by this method. These compare very favorably with the seven cases performed by Fenger's method. The operation is performed by making an incision parallel to and half an inch below the margin of the ribs in the fore part of the eighth intercostal space; a second incision is made in the eighth intercostal space, close to the junction of the eighth and ninth intercostal cartilages, in an oblique direction from above downward. The parietal peritoneum is punctured at this point by forceps or knife, and enlarged by spreading forceps. The thumb and index-finger of the left hand are introduced into the first incision, and the stomach sought for at a point corresponding as nearly as possible to the fundus. This is grasped by dressing-forceps and drawn through the eighth intercostal space, until the stomach projects half an inch beyond the skin. If some days are to elapse before opening the stomach, it is fastened to the skin with sutures which pass through the serous membrane only; but if an immediate opening is necessary, the sutures must go through the whole thickness of the stomach. By experiments on cadavers Hahn found that there was no danger of wounding the diaphragm if the incision were made between the eighth and ninth costal cartilages. The advantages are: 1. A small, contracted stomach is found with great certainty and can be fixed with less dragging. 2. The adhesion seems stronger and more sure than when the abdominal incision is made, and the contents of the stomach do not come into contact with the parietes to the same extent as in older methods. 3. Nutrition is better established, because the food is introduced at some distance from the pylorus; and 4. No obturator or other means of closing the opening is needed afterward, because the proximity of the cartilages prevents the fistula becoming larger.—*Centralblatt für Chirurgie.*

The Duration of Pregnancy.—Dr. Oliver states that the duration of pregnancy in the human female varies as much as it does in the case of many of the lower animals. Issmer, reckoning only cases in which the fœtus was well developed, asserts that the duration ranges from two hundred and sixty to three hundred and four days. But Oliver believes there must be some error in this statement. If we reckon from the last menstruation, we must be careful to ascertain the exact date of the cessation of this, for it will be remarked that where the duration of the discharge varies little, the woman, when asked, is more likely to give the date of the beginning than the date of cessation of the last menstruation, and in this way mistakes may arise in our calculation to the extent of four or more days. The majority of authors are agreed that in reckoning the duration of pregnancy in woman, we ought to fix the probable date of delivery on the two hundred and seventy-eighth day from the cessation of the last menstruation. He is of opinion that the best results will be obtained by ascertaining, first, the date of the cessation of the last menstruation, and then the usual duration of the inter-menstrual period in each given case; the number of inter-menstrual days should then be divided by two, and it will be found that the two hundred and sixtieth day from the middle of the inter-menstrual period will most probably be the date of confinement. —*Liverpool Medico-Chirurgical Journal.*

Milk Diet in Typhoid Fever Overdone.—Dr. Da Costa thinks that the exclusive use of a "milk diet" in typhoid fever is overdone. The stools should be carefully watched to see that the milk does not disagree. His plan is to use three pints of milk and one pint of broth in the twenty-four hours, given alternately, with a mid-day meal of arrow root, or other thickened food. It should be given every two hours during the day, and every three hours at night. In very light cases it may be given every four hours at night, but under no circumstances should nourishment be used less frequently.—*College and Clinical Record.*

Some Points in the Dietetic Management of Children.—Dr. Rachford formulates the following rules, which may aid us in selecting a diet when it becomes advisable to discontinue milk temporarily: 1. Avoid albuminous food, *a*, when marked constitutional symptoms are present; *b*, when in doubt as to the character of the fermentation causing the disease; *c*, when the stools are putrid; *d*, when the stools contain mucus and blood; *e*, when the nausea is constant and not relieved by vomiting. 2. Avoid carbo-hydrates as a food, *a*, when there are no marked constitutional symptoms present, and the stools are continuously acid; *b*, when there is much flatus, pain, or urticaria. 3. When the albumins are to be avoided, the carbo-hydrates are, as a rule, indicated; and when the carbo-hydrates are to be avoided, the albumins are, as a rule, indicated. 4. Give foods, such as cream, beef broths, and whiskey, *a*, when the foods prescribed according to the above rules disagree; *b*, during the first twenty four hours in severe acute cases; *c*, when in doubt as to the character of the food indicated.—*Archives of Pædiatrics.*

Urticaria of the Tongue.—Dr. Bock reports a case of urticaria of the tongue in a patient thirty-eight years of age. The patient was subject to such attacks after eating mussels. The onset of the attacks was very sudden and alarming; the tongue became greatly swollen, the larynx œdematous, and he was unable to speak. Dr. Bock ordered a mustard foot-bath and a hypodermic of atropin, and in a short time the alarming symptoms disappeared.—*L'Union Médicale.*

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & Co., Nos. 56 and 58 Lafayette Place.

New York, March 28, 1891.

FACTS GLEANED FROM LAST YEAR'S GRIPPE.

THE year of grace that included parts of 1889 and 1890 was marked by direful disaster in the way of epidemics. First came the dreadful pest that held sway in Arabia. Yellow fever reigned in Rio Janeiro, carrying off three hundred and forty-seven persons in one month and increasing the death-rate steadily for three consecutive months. Cholera, originating in the Philippines early in the year, soon reached Madras and all of British India, attacking Mesopotamia in the summer and threatening all Europe. Dysentery raged in Galicia, and carried off about ninety-five of every one thousand of the population. Small-pox appeared in various parts of Egypt and in Sardinia. Typhoid fever in Basle caused the death of two hundred and sixty-two persons in a fortnight. In the Vienna Maternity, thirty women died of puerperal fever. Beriberi raged with unusual intensity in Brazil, causing the death of one hundred and eleven persons in Rio alone. Then came grippe, from which the world has not yet entirely recovered, epidemics having reappeared this year in New York, New Orleans, Pittsburgh, Chicago, and Sumatra. What has been, may be again; and in view of the fact that these places suffered severely during the pandemic of 1889-90, vigilance now may do something to secure some immunity in other localities, as unhygienic surroundings increase the severity of the disease, however and by what it may be caused.

In a paper on grippe read by one of the women physicians before the New York Academy of Medicine, January 21, 1890, it was suggested that a generous contribution to medical literation could be formed from carefully and concisely worded *résumés* of each practitioner's professional experience of the disease in question. If every form of the epidemic were described and the order of its visitation noted, it would remain to be seen whether cycles of epidemics really exist; which is not impossible if such conditions are connected with telluric or electric influences that are known to observe a periodic course. As ideas are in the air as well as epidemics, this particular thought in regard to records and comparisons occurred to one having authority, General William W. Averell, U. S. A., and was worked out by him with skill and precision. The results are embodied in his report, dated July 1, 1890, made to General Franklin, the president of the board of managers on inspection of national military homes and soldiers' homes in the different States. In answer to special inquiries concerning grippe as it appeared, was treated, and ran its course in these places, many interesting facts have been collected. The chronological history of its recent visitation, together with the number of persons attacked, and the number of deaths, is as follows:

Location.	Date of appearance.	Number afflicted.	Percentage of numbers.	Date of disappearance.	Duration in days.	Deaths.
Bath, N. Y.	Dec. 20, 1889	323	28.0	March 29, 1890	100	
Quincy, Ill.	Dec. 25, 1889	....	10.0	Feb. 15, 1890	55	
Milwaukee, Wis.	Jan. 1, 1890	201	10.0	March 15, 1890	63	1
Marshalltown, Iowa	Jan. 1, 1890	175	50.0	April 15, 1890	105	
Waupaca, Wis	Jan. 1, 1890	50	63.0	March 25, 1890	84	
Minneapolis, Minn	Jan. 2, 1890	27	19.0	April 6, 1890	95	
Sandusky, Ohio	Jan. 2, 1890	350	50.0	April 20, 1890	109	
Norfolton, Conn	Jan. 3, 1890	150	68.0			
Togus, Me.	Jan. 3, 1890	364	20.0	Feb. 20, 1890	49	1
Grand Rapids, Mich	Jan. 6, 1890	575	92.6	March 20, 1890	73	
Yountville, Cal	Jan. 6, 1890	8	....	.....	....	3
Leavenworth, Kans.	Jan. 12, 1890	79	4.4	March 4, 1890	52	
Bennington, Vt.	Jan. 12, 1890	20	33.0			
Dayton, Ohio	Jan. 18, 1890	400	8.3	Feb. 15, 1890	29	
Santa Monica, Cal.	Jan. 21, 1890	7	...	March 15, 1890	52	1
Erie, Pa.	Jan. 24, 1890	101	26.0	Feb. 19, 1890	27	
Grand Island, Neb.	Feb. 11, 1890	6	10.0	Feb. 19, 1890	9	

The total number of persons attacked was 2,486, this being an average of nearly thirty-three per cent. of the whole number of soldiers in the various homes. The average duration of the disease was about sixty-five days. There were only six deaths. Treatment, aside from the relief of such symptoms as pain and cough was mainly tonic and sustaining. The remedies most used were preparations of Peruvian bark, strychnine, alcoholic stimulants, and phenacetin. The surgeon in charge of the hospital at Santa Monica states, that preceding, during, and following the outbreak of epidemic influenza, various morbid manifestations appeared in certain persons, less severe in form than grippe, but probably due to the same epidemic influence, such as obstinate neuralgias of the fifth cranial nerve, notably of its superior vital branch, and catarrhal affections of the respiratory tract. The physician in charge at Togus says that in eighty per cent. of his cases (364) distressing bronchial symptoms were present by the end of the second or the beginning of the third day, consisting of a feeling of soreness and tightness across the chest accompanied by a hard, dry cough. Unless stimulated by drugs, expectoration was not established for two or three days. The cough often lasted for two or three weeks. Next to the profound physical depression, cough was the most persistent and troublesome symptom. In not more than five per cent. of the cases was there any involvement of the nasal or pharyngeal mucous membrane. The whole force of the disease seemed to expend itself upon the nervous system in about fifteen per cent. of those attacked. There was one case of grippal paraplegia lasting two weeks; one case of paralysis of the larynx and of the muscles of the left side of the face; and one patient had acute maniacal delirium for a fortnight. Organic heart or lung trouble, four cases in all, was brought to a fatal termination by the onset of grippe.

While all the information in General Averell's report is valuable, the most interesting and instructive record concerning grippe is that furnished by R. Humphrey Stevens, the surgeon in charge of the Michigan Soldiers' Home Hospital. The disease appeared there as one of

lassitude and prostration, followed by fever and pain either in the head, chest, or back. Then the malady presented itself or passed into one or all three of the following forms: First, affecting the sensory nerves; second, affecting the mucous surfaces; third, affecting the muscular system.

Of the first class there were 351 cases; of the second, 153; and of the third, 71; total, 575. Of the first class, 323 were cured, and 27 developed into glandular inflammation. All cured. Of the second class 147 cases were stopped at the outset, and 13 cases developed pneumonia. All cured. Of those cases affecting the sensory nervous system and not developing into glandular inflammation, 2 had irido-choroiditis and 2 had idiopathic herpes. The other 320 had neuralgia of the trifacial and its branches, with great pain unaccompanied by swelling. Glandular swellings were confined to the lymphatics of the throat and neck except in two cases, in one of which the glands of the groin were affected and the other suffered from orchitis, making a total of 351 cases.

Of the second class, 140 were of a typical nature, experiencing profuse mucous discharges that were sometimes purulent. Those of this class that developed into pneumonia presented the following characteristics: 1 double pneumonia, 12 single, 8 on left side and 4 on right side. The kidneys were complicated in 18 cases, of which one case had pneumonia and none had diarrhœa. Of the third class, 71 cases, 68 were to all appearances incipient inflammatory fever, of which three developed into typical forms. All recovered. No age was exempt. The younger men suffered most from pyrexia and pain. Among them occurred all the cases of pneumonia except one, in which instance the severity of the symptoms was greatly aggravated by previous intemperance and exposure.

Primary symptoms of grippe appeared January 6, and disappeared March 20, 1890, the secondary symptoms disappearing May 28, 1890. Dr. Stevens's careful record of typical cases presents the following average pathological facts: First day: Respiration normal, pulse regular, bowels regular, urea deficient. Second day: Condition same, except urea decreasing. Third day: Feels languid, dumpy headache; evening headache intense; urates and uric acid in urine, urates in abundance. Fourth day: Pulse 130, temperature 103; intense pain in head and back; urine scanty, specific gravity 1024; urates, uric acid, and oxalate of lime, chlorides abnormal. At 2.30 P.M. broncho-pneumonia appeared. Fifth day, 5 A.M.: Pneumonia decided; expectoration; urine same, except chlorides disappear. As the fever increases the specific gravity of the urine increases, and with the increase in urea there is increase of urates until finally the urine is acid, and crystals of uric acid, urates, and oxalates appear. In a case presenting all these features, inflammatory fever usually sets in, especially if the patient has a tendency to the rheumatic diathesis. The patient does not always enter the first class of disturbances first, but may begin his grippal condition with the second or third stage and develop the others later. A case unchecked or unrestricted by treatment almost invariably passes through the three forms sooner or later.

While collecting from cases data for physico-chemical facts, a climato-metrical record was kept, of which Dr. Stevens states that the variations compared identically with the number of cases of grippe that appeared. The condition of the system produced by these climatic changes resulted from an absence of electricity, or rather an electro-negative condition of the air, a great decrease in atmospheric ozone, an increased amount of moisture, a higher temperature, and a higher barometric condition, all acting or existing in an uncommon or unusual relation to each other. In other words, grippe is a disease of deoxidation from causes external to the body *per se*, and varies according to the oxyo-galvanometric and barometric condition of the air breathed. Expressed mathematically, its prevalence is proportional to the increase in weight and humidity, and inversely to the amount of ozone and the electrical condition of the atmosphere.

In view of the intense nerve depression resulting from uneliminated organic excrementitious products existing in abundance in the blood, and which all the reserve nervous force of the body endeavors to throw off and burn up, the too popular antipyretic sedative treatment is unwarrantable and unscientific. Fatal prostration and heart failure in grippe are probably due more often to drugs than to the disease itself. In the Michigan Home Hospital, with its five hundred and seventy-five cases, more benefit was derived from tonic eliminative remedies than all else, from hot air and hot water, externally and internally, followed by anti periodic alkaloids.

THE REGULATION OF PROSTITUTION.

The discussion of the subject of licensing prostitutes and regulating prostitution has again become a subject of present interest. The Legislature of Missouri has before it a bill providing for the regulation of prostitution. At the International Medical Congress, Dr. Thiry read a paper on the subject, which excited much discussion, and quite recently it has been brought up before the New York Academy of Medicine. We notice also that even in so remote a land as Japan there has been an agitation started, and the Imperial Diet has been memorialized by a large number of citizens, who ask for the abolition of the license system and present statistics showing that it is a failure in Japan.

Those who assert that the licensing system should be established produce statistics which show that it reduces the amount of venereal disease. For example, in France, M. Commenge has recently stated, at a meeting of the Academy of Medicine of Paris, that he had collected the statistics of the number of diseased prostitutes found in the decade from 1878 to 1887: First, among women registered by houses or cards; second, among those women that—though registered—were the object of more or less frequent arrests, and constituted a special class under the name of *femmes du dépôt*; third, and lastly, among the uninspected, or women that lived by clandestine prostitution. The results obtained, based on nearly a million visits, showed the number of cases of syphilis in each thousand examined to be respectively 3.1, 2.7, and 23.9. Of other venereal diseases 3.0, 2.5, and 14.5.

Thiry, of Brussels, gives similar figures. The Vienna syphilographers are all naturally in favor of regulation. Neumann would have prostitution entirely under government control. Prostitutes should, according to him, be

regularly examined, and if diseased quarantined. Soldiers, sailors, and even factory hands and wet nurses, should also be regularly examined. Already in Vienna each prostitute receives a book containing a description and photograph of herself, and a copy of the laws relating to prostitution. No one under sixteen can be registered, no persons afflicted with organic or constitutional disease. Sanitary examinations are made twice a week, all diseased women are put into hospitals, primary syphilitic cases are quarantined for three months, and kept under treatment for two years. Clandestine prostitutes are treated in the same way by their own physicians.

The results of this treatment in Vienna are not dwelt upon with so much enthusiasm as the methods. Vienna is rank with venereal disease. The idea that continence is a moral virtue, simply does not exist for men or for lower-class women, half the births in the city are illegitimate, and Austria's Crown Prince shoots himself as the result of a low intrigue. Statistics are brought forward by the opponents of licensing which appear to show that the system is a failure in Paris, Berlin, Italy, and Great Britain. The statement of Lacour, chief of the police of Paris, that licensing does not protect and that prostitution cannot be made safe, is also often quoted.

It seems, therefore, that judgment must be formed upon general principles, since the facts are so inadequate.

One general principle, viz., that the sexual propensity cannot be regulated by law, seems to be a pretty safe one. If there is a general desire in a given community to do a thing, it will be done. Regulating prostitution, however, is said to make this indulgence safer. Facts do not quite prove it. Furthermore, it is admitted that all attempts to register and examine prostitutes thoroughly have failed. And for our part we should dislike to feel that members of our calling would accept so low and despicable a position as that of government examiners of prostitutes.

A mistake which advocates of the licensing system make is that of considering the question solely as a sanitary one. Even if it were proved that syphilis were reduced five per cent. in a given community, it would not prove that the community was a happier or healthier one. For under the stimulus of a government assurance that prostitution was safe, the amount of illicit indulgence might be doubled, with the result of increased domestic trouble and moral degradation.

The injustice of forcing women to be examined, and not men, has often been referred to. M. Thiry considers this a "fallacious idea," though upon exactly what grounds he fails to state.

It has seemed to us, taking all the facts into consideration, that the safest method of treating the subject of prostitution is the educational one. Its moral and physical dangers should be assiduously inculcated, especially upon the rising generations.

THE PATHOLOGY OF DIPHTHERIA.

It is pleasant to find that certainty has been reached in any department of medical science. Particularly is this the case in reference to so dangerous and intractable a disease as diphtheria.

In 1884 Löffler anounced the discovery of a bacillus which he thought was probably the specific cause of this disease. His statements were cautiously made, however, and his conclusions were provisional. In a subsequent essay, published last year, Löffler reviews the work of other bacteriologists upon this subject, and shows that they have all invariably succeeded in finding the so-called Klebs-Löffler bacillus in primary diphtheria. From their experiences in studying this bacillus he concludes that there can no longer be any doubt of its specific character. It has been determined also that this bacillus, though always present in the diphtheritic deposits, does not invade the blood or organs, or even the mucous membrane affected, but that the constitutional symptoms and organic changes are caused by a toxic albumin.

We have said that the results of investigations have been uniform. One exception must be made, however. In 1889 Dr. Prudden made a bacteriological study of twenty-four cases of diphtheria occurring in this city, and in not a single instance did he discover the Klebs-Löffler bacillus. Dr. Löffler refers to this apparent hiatus in the evidence, but says that in his opinion further investigations would clear up this contradiction. Professor William H. Welch and Dr. A. C. Abbott (*Bulletin of the Johns Hopkins Hospital*) have recently undertaken such investigations.

They made bacteriological examinations of eight cases of primary diphtheria, and found the Klebs-Löffler bacillus in every instance.

They also made some control experiments upon cases of simple tonsillitis or pharyngitis, and upon secretions from healthy throats, but failed to find the specific bacillus.

The only species of bacteria which was found constantly in the cases of diphtheria was the Löffler bacillus. Two other species were present in many cases, viz., the well-known streptococcus, which grows in much smaller colonies and less rapidly than the Löffler bacillus, and a short oval, often slightly pointed bacillus, growing in long chains running parallel to each other. There are, our authors add, often marked irregularities in shape, and especially in size, of this bacillus, even of individuals in the same chain. The colonies of this organism are grayish-white, moist, larger than those of the streptococcus, but smaller than those of the Löffler bacillus. The colonies of this short bacterium bear more resemblance to those of the Löffler bacillus than any others which we have met with, although colonies of other organisms bear a greater similarity in rapidity of growth and in size, notably those of a large coccus, but they are readily distinguished by a more opaque white appearance.

Professor Welch affirms that "every postulate necessary to prove that the specific cause of primary diphtheria is the Klebs-Löffler bacillus has been fulfilled, and that this bacillus may be designated the *bacillus diphtheriæ*. This bacillus is present in every case of primary diphtheria, in such number and situation as to explain the local manifestations of the disease; it can be readily isolated in pure culture, and a disease identical in all respects with human diphtheria can be produced experimentally by the inoculation of pure cultures. The investigation of the toxic albumins, produced by this remarkable bacillus, has cleared up many obscure points.

"The only points which can be brought forward as tend-

ing to cast any doubt upon the recognition of this bacillus, as the specific cause of diphtheria, are the very exceptional observation of an apparently identical bacillus in the throat of healthy children, and the more frequent observation of a bacillus, usually called the pseudo-diphtheritic bacillus, which differs from the true bacillus diphtheriæ chiefly or only by the absence of pathogenic properties when inoculated into animals."

The contradictory experiments of Prudden are explained, not very satisfactorily, by assuming that his cases were not those of primary diphtheria. While this may answer for some, it can hardly be supposed that it will do so for all.

THE CONTINUOUS EMPLOYMENT OF SULPHONAL IN PSYCHOSES.

Among the newer hypnotics, sulphonal appears to be holding its own remarkably well. Quite an extensive literature has already sprung up relating to this drug, which was added to our medical armamentarium only two years ago. While many observers have recorded only gratifying results from its use, others have expressed themselves in a less enthusiastic way, and retain their preference for chloral and opium.

Umpfelbach (*Therapeutische Monatshefte*) thinks chloral more certain in its effects. Garnier (*Annales Médico-psychol.*) says that sulphonal insures sleep, but does not quiet patients in the day-time. Knoblauch (*Therapeutische Monatshefte*) is far from pleased with its employment.

Prominent among those who are strongly impressed by its excellent hypnotic properties are Kast, Rabbas, Rosin, Oestreicher, Cramer, Schwalbe, Normann, Otto, Jastrowitz, Pachoud and Claret.

The most recent contribution to the subject is published by Dr. Vorster in the *Allgemeine Zeitschrift für Psychiatrie*. The author has had considerable experience with sulphonal, having used about three hundred ounces of the drug in fifty-six cases of mental disease, the patients being inmates of the insane asylum of Königslutter. He says that its systematic exhibition results in sleep at night and pacification by day. Motor explosions are suppressed by sulphonal, and this accounts for some unpleasant phenomena occasionally observed, such as staggering gait, vertigo, difficulty of speech, and weakness of the extremities. It is pre-eminently a motor depressant.

In hallucinations accompanied by fear and similar psychoses, its good effects are less apparent. In acute and chronic mania, in senile dementia, in progressive paralysis, idiocy, and epilepsy, perverted motor manifestations were almost invariably held in complete control. The daily dose required to insure its efficacy was rarely sixty grains; generally thirty grains were found sufficient. In acute mania or melancholia, the author asserts that, sulphonal is as beneficent in its action on the brain, as an aseptic dressing on a fresh wound.

Symptomatic improvement in cases of severe epilepsy was also observed by Dr. Vorster under the systematic administration of sulphonal.

"Sulphonalism" was at times observed by the author. He states that this condition shows two stages, first a motor-depressive, and second, a sensory-depressive one. He never saw sulphonalism develop after a single dose of the drug. As this part of the subject has received little or no attention in our country, we will follow the author in his description of the two stages mentioned.

The first stage is characterized by motor disturbances resembling paretic weakness. The lower extremities are first affected, the patient's gait assuming a staggering character. Next the tongue, and still later the arms, participate in this weakness.

As regards the second stage, the symptoms resemble those of sopor. The patient is drowsy, he can be wakened by a loud voice, but presently falls asleep again. Sensibility to pain is lessened. Cutaneous reflexes are absent, but the tendon reflexes persist. In taking food the patient requires assistance.

The author says that the first stage is devoid of danger, but the supervention of the second stage carries a warning with it that too much sulphonal has been used, especially as cardiac weakness has been noticed while it lasts.

Dr. Vorster has witnessed no unpleasant symptoms on discontinuing sulphonal after its daily employment for weeks and months. Phenomena analogous to morphinism were never observed.

On the whole, we are disposed to agree with the author that sulphonal is a valuable remedy, and that its employment in disturbed mental states deserves a further trial.

EXPECTANT OR OPERATIVE TREATMENT IN TUBERCULOSIS OF JOINTS.

In a series of articles on this subject Dr. Watson Cheyne (*The Lancet*) considers the rival claims of treatment on the expectant plan and active surgical interference in cases of tubercular joint disease. His views may be summarized as follows: Operative interference is desirable in the following cases: where chronic suppuration has occurred; at an early stage, where the disease is localized to one part of the synovial membrane or bone; in many cases, at a later stage, where there is a deposit in the bone along with general synovial thickening; in cases of diffuse synovial thickening, where expectant treatment has failed to arrest the progress of the disease; in cases where a better functional result can be obtained by operation; in cases, in adults, where deformities are present which can only be remedied by operation; in many cases where there are septic sinuses; in certain cases where phthisis is present, or the general condition such as to require removal of the disease; in adults more frequently than in children; in the poor more frequently than in the rich.

Expectant treatment should be employed in the first instance, in cases of diffuse synovial disease without suppuration, provided that there are no other reasons requiring operative interference, and it should be persevered in so long as improvement follows; also at first, in cases in children where osseous deposits are present in parts where they cannot be reached without excision, or in cases where the presence of deposits in the bone is doubtful; also in some instances where septic sinuses are present. In any case it should be persevered in longer in children than in adults.

It will thus be seen that he limits the sphere of expectant treatment considerably, and this limitation is mainly due to the fact that, under aseptic precautions, we can now cut into joints at an early stage, while they are as yet comparatively healthy, and remove portions of synovial membrane or bone without fear of doing harm by our operation, and with a good chance of ridding the patient of his disease and getting a useful joint. The cures by expectant treatment, when it is carried to excess, are often obtained only at a great expenditure of time, and after great endurance of pain and at a certain risk to the patient; and it by no means follows, because a good result is obtained in any given case by expectant treatment, that it would not have been wiser, and that in a number of similar cases the results would not have been on the whole better, had operative measures been employed.

He concludes as follows: "In thus attempting to indicate the limits of expectant and operative treatment, I am well aware how far I have come short of what is wanted; but in these diseases, perhaps more than in any other, so many points have to be taken into consideration, and so much depends on the circumstances of each individual case, that it is quite impossible to lay down rules which are universally applicable; and one cannot do more than indicate some of the chief points which must be taken into consideration in coming to a decision."

News of the Week.

The Profession and the Secular Press.—At the meeting of the Medical Society of the County of New York held on Monday evening, Dr. Fred R. Sturgis read a paper on the question, "Under what Circumstances and to What Extent May Members of the Medical Profession Properly Permit their Names and Opinions to be Published by the Secular Press?" Drs. A. Jacobi, Daniel Lewis, A. S. Hunter, George F. Shrady, and D. B. St. John Roosa took part in the discussion. While it was acknowledged that it was proper to inform the public on medical matters of general interest, the practice of advertising the individual man as possessing special skill in the treatment of disease, etc., was severely criticised. The doctor was privileged on proper occasions to speak for the profession, to quote its opinions or give its conclusions, but not to magnify his own importance at the expense of his brethren. A fuller report will be published at a future time.

Death of Dr. W. B. Sprague.—Dr. William Bishop Sprague, who died at his home at Pavilion, Genesee County, N. Y., last week, aged fifty-five, was a native of that town, and was graduated in his profession from the Buffalo Medical College in the class of 1857. He succeeded his father in practice at Pavilion. He became a member of the State Medical Association and President of the Genesee County Medical Society. In 1887, on account of ill health, he left his home practice and took the post of surgeon of the New York and Amsterdam steamship Rotterdam. He returned home from this post prostrated by the malady which caused his death.

Medical Attendance on the Indians.—The *New York Times* says: "A portion of the Government's reservation system for the red men which seems susceptible of improvement is that which concerns their medical treatment. The civilized tribes make their own provision for this purpose, while for the others the Government furnishes in all eighty two physicians and surgeons. Tribes small in numbers or occupying a very limited area doubtless find a single agency physician sufficient; but this can hardly be the case with a tribe which has eighteen thousand people living on a reservation of twelve thousand square miles, with but one Government doctor to attend to them. There is also lack of general supervision, although many of the physicians are known to be men of fidelity and good professional attainments, and, in fact, all are required to have testimonials to character as well as a diploma from some reputable medical school. But the salaries are meagre, only one physician getting as much as $1,300 per year, while $1,200 and $1,000 are the usual rates; and there are, of course, fewer aids to practice than elsewhere, while the lack of hospital accommodations is particularly marked. Like several other features of the Indian system, this one seems to have grown up in rather a makeshift way. Perhaps more improvement might be made in it were the whole reservation system itself likely to last very long."

Bequest for a New Hospital.—In the will of John H. Krause, recently probated in Philadelphia, is contained a bequest of $20,000 to the King's Daughters of Pottstown, Pa., for a hospital, to be conducted under the management of the society, provided the society shall make up a like amount.

Dr. Jacques died at his home in Manchester, Conn., last week, aged sixty-nine years.

State Care of Inebriates.—The Legislature of the State of North Carolina has set aside a portion of the Western North Carolina Hospital for the care and treatment of inebriates. This is looked upon as only a beginning of what will ultimately be a duly appointed and properly equipped asylum.

Dr. N. Senn, of Milwaukee, has been appointed Professor of Surgery in the Chicago Medical College.

The Graduating Age in Medicine.—In the Seventh Report on Medical Education, just issued by the Illinois State Board of Health, is a paragraph that reads as follows: "Under the schedule of two-year courses and three years' study the earliest age at which a student can be graduated is twenty-one years. The addition of one year each to the time of study and the college term would seem to justify the limitation of the minimum age of graduation to twenty two years. This is a matter that the boards of examiners and the colleges would do well to take under consideration." Following this paragraph is a table showing the ages of graduation of 5,719 graduates—5,497 of American collegess, 82 of Canadian, 32 of English, 98 of German, and 10 of Swiss colleges. Of the 5,497 American graduates 5,214 were males and 283 females. Of the total graduates from twenty-one to thirty years of age, the percentages at different ages are: Twenty-one years, 6.43; twenty-two years, 11.34; twenty-three years, 13.35; twenty-four years, 13.52; twenty-five years, 13.11; twenty-six years, 10.85; twenty-seven years,

9.94; twenty-eight years, 8.54; twenty-nine years, 6.92; thirty years, 5.91.

Surgical Perfection has been attained in one direction, according to Dr. Stephen Smith, who says, speaking of the ligature of arteries: "To one who has been personally familiar with the painful anxiety with which the earlier surgeons watched their cases, especially at the period of the separation of the ligature, such language seems preposterous. But, fortunately, it is true. We have reached the happy era of surgery when to ligate an artery means to strengthen it at the point of ligation. We can ask no more. The improvements in this branch of surgical practice have attained—perfection."

State Examinations of Physicians.—We learn from the *Deutsche Med. Zeitung* (January 5, 1891) that during the year 1889–90, 794 physicians were examined by the Royal Prussian Board of Examiners, of which 184 passed as "satisfactory," 357 as "good," and 22 as "very good," while 231 were either rejected or withdrew. If fifty per cent. of our graduates could thus be weeded out how much more freely would those breathe who, by dint of hard study and careful preparation, have become entitled to undertake the responsibility of leading their fellows to life or death.—*Dietetic Gazette.*

Dr. Lorenzo Hale retires from the editorship of the *Albany Medical Annals*, and is succeeded by Dr. W. G. Macdonald.

An Interesting Exhibit.—The *Journal of the Arkansas Medical Society* wants to exhibit at the World's Fair some of the Arkansas doctors, together with some of their work; also a few hundred death certificates of persons who have died of absolutely preventable diseases, and whose lives would have been spared if there had been a working Board of Health to take charge of the public health.

Dr. Clements, of Yell County, Ark., has introduced a bill providing for revoking a doctor's license if he is guilty of unprofessional conduct, such as committing abortion, advertising to cure palpably incurable diseases, accepting a fee in advance on promise to cure such diseases, employing drummers, etc. We hope our confrère from Yell County will succeed with his bill. It has already passed the House.

An International Homœopathic Congress is to be held at Atlantic City, June 16th.

Suicide of a Physician.—B. M. Pahl, of Findlay, O., committed suicide on March 23d, by taking fifty morphine pills.

Dr. Nathan Camp, of Troy, N. Y., died on March 23d, aged seventy-two years.

A Writer in the *Medical Age* suggests that the *Journal of the Association* be abolished, and the membership fee reduced to the actual expenses of the Association.

Vaccination in France.—The French Academy of Medicine is just now the scene of a struggle between those who are in favor of a law making vaccination compulsory, and the others who think that the present permissive system goes as far as is consistent with personal liberty. Professor Le Fort, who favors the "volunteer" method, argues that, though vaccination has an undoubted and valuable influence in affording protection and in mitigating the severity of the disease, the most effective and reliable means of preventing the spread of the disease is rigorously enforced isolation.

Something New in Bones.—Dr. M. Sternberg has found something new in human osteology. It is only a little hole in the sphenoid bone, which he calls the "canalis cranio-pharyngeus." It is best seen in the skull of a child four years of age.

Richmond's Physicians for the Poor.—After persistent effort on the part of the Richmond Academy of Medicine and Surgery, the City Council has finally elected four physicians—one for different sections of the city—to attend the calls of the needy poor of the city who may be sick at their homes. The salary of each is $600 a year, beginning March, 1891.—*Virginia Medical Monthly.*

Negro Physicians.—The fifteenth anniversary of the Meharry Medical Department of Central Tennessee College was held February 19th. The *Nashville Journal of Medicine and Surgery* says that more than one-half of the educated colored physicians of the Southern States are graduates from Meharry College. With scarcely an exception, they have been cordially received by the white physicians, who have consulted with them in dangerous cases, and assisted in difficult surgical operations.

The Forty-first Commencement of the Medical Department of the University of Nashville, and the sixteenth of the Medical Department of Vanderbilt University, were held in Masonic Theatre on the evening of February 27th.

State Care of the Insane.—The bill appropriating $454,000 to carry into effect the law for the State care of the insane has been approved by the Governor. The board for the establishment of the asylum districts is required to apportion this money in such a way as to provide for the accommodation of 150 patients at the Utica Hospital, 200 at the Hudson River Hospital, 200 at Middletown, 150 at Buffalo, and 127 at Binghamton.

Hypnotism in Public Forbidden.—The first official suppression of a public hypnotic entertainment in this country occurred at Cincinnati, where the Health Commissioner, Dr. J. W. Prendergast, advised the licensing authorities of that city that hypnotic exhibitions should be forbidden. Dr. Prendergast takes the ground that the indiscriminate application of hypnotism is in a large proportion of cases injurious to the mental health of the subjects. The Common Council has interdicted these exhibitions, and adopted an ordinance making them a misdemeanor.

Verdict Against a Health Officer.—The Board of Health of the town of Franklinville, N. Y., brought suit some time ago for damages against Dr. J. W. Kales, of that place, alleging that he had failed to report a case of malignant diphtheria. Dr. Kales claimed that the case was one simply of follicular tonsillitis, and has fought the Health Board in the courts, asserting that the prosecution was more in the nature of a persecution. The Supreme

Court has now granted a non-suit, and the Health Board has all the costs to pay. Dr. Kales is to be congratulated upon having successfully maintained his rights.

Medical Matters in the Northwest.—A correspondent from Portland, Ore., writes: "Medical matters in this northwest corner keep pace with our other rapid improvements. We have three hospitals besides the county farm, two medical colleges, a State and city medical society, blatant advertising quacks, corruption in politics, and Koch's lymph. The first injection of the latter was given yesterday, and it took nearly two columns in one of our daily papers to describe it."

Physical Examinations in Damage Cases.—The interesting question whether the courts have a right to order the physical examination of a plaintiff in an action for personal injuries, without regard to its being consented to or not, has been lately considered by the Alabama Supreme Court, and a decision given in favor of the rule allowing such an examination. After discussing the weight of authority the Court held the following propositions to be established: "First. That trial courts have the power to order the surgical examination by experts of the person of a plaintiff who is seeking a recovery for physical injuries. Second. That the defendant has no absolute right to have an order made to that end and executed, but that the motion therefor is addressed to the sound discretion of the Court. Third. That the exercise of that discretion will be reviewed on appeal and corrected in case of abuse. Fourth. That the examination should be ordered and had under the direction and control of the Court, whenever it fairly appears that the ends of justice require the disclosure or more certain ascertainment of facts which can only be brought to light or fully elucidated by such an examination, and that the examination may be made without danger to plaintiff's life or health, and without the infliction of serious pain. Fifth. That the refusal of the motion where the circumstances present a reasonably clear case for the examination under the rule last stated is such an abuse of the discretion lodged in the trial court as will operate a reversal of the judgment in plaintiff's favor."—H. E. Riley, in *New York Medical Journal.*

A Cure for Hawking due to accumulation of inspissated mucus in the naso-pharynx is, according to the *Omaha Clinic*, the following:

℞. Ammon. muriatis,
Pulv. ext. glycyrrh. .... āā ʒ ij.
M. F. pulvis.

Of this two teaspoonfuls are taken in a glassful of water on an empty stomach in the morning, every two hours during the day, and the last dose before retiring. This is continued until one single attempt at clearing the throat will cause an easy and loose expectoration, when the frequency of the dose is reduced first to every three, then to every four, and finally five hours.

The Late Dr. Hosmer Allen Johnson.—The following resolutions were adopted by the Faculty of the Chicago Medical College at a meeting held on February 28, 1891:

Resolved, That by the death of Hosmer Allen Johnson, M.D., LL.D., the Chicago Medical College has lost the services of one of its founders and most active, able, and eloquent teachers; the Northwestern University one of its wisest trustees and councillors; the medical profession one of its most learned, honorable, and influential members; and the community one who for nearly forty years has been an active, skilful, and untiring benefactor to the suffering, alike in peace and war, and in the direst of conflagrations.

Resolved, That to his bereaved family and friends we tender our most sincere and abiding sympathy, and the assurance that their temporal loss is his eternal gain.

Resolved, That the Secretary of the Faculty furnish a copy of the foregoing resolutions to the family of the deceased, and to the medical and other periodicals of this city.

N. S. Davis, M.D., LL.D.,
Edmund Andrews, M.D., LL.D.,
Ralph N. Isham, A.M., M.D.,
Committee.

The Charter of a Medical College Repealed.—The bill presented at the instance of the New Jersey State Board of Medical Examiners, repealing the charter of the Medical and Surgical College of that State, has been passed by the Legislature and approved by Governor Abbett.

Dr. H. A. Wilson has been appointed Lecturer on Orthopedic Surgery in the Jefferson Medical College, of Philadelphia.

The Medical Society of the Missouri Valley held its third annual session in Omaha, Neb., on March 19th and 20th, 1891.

An Institute of Preventive Medicine was recently opened in St. Petersburg with considerable ceremony. The institute was established by Prince Alexander Petrovitch, of Oldenburg, who gave upward of $100,000 for the purpose. Pasteur, Koch, and Lister had been invited to be present at the opening ceremonies, but being unable to accept, sent each his representative.

Yellow Fever in Lyons.—There have recently been four deaths in Lyons from yellow fever, the explanation of the occurrence of the disease, as given by a local paper, being a curious one. It appears that a young married couple came from Marseilles to a house in the suburbs of Lyons to visit an aunt of the husband, and brought with them a present for the old lady in the shape of a pair of paroquets, which had been bought from a sailor just returned from South America. A few days afterward the young couple, the aunt, and a servant, all the inhabitants of the house, were seized with an illness that puzzled greatly the physician called in to see them. On consultation, however, it was decided that the disease could be no other than yellow fever, and despite all the care of the physicians, the patients soon succumbed. The medical attendants regarded the paroquets as the carriers of the infection.

International Congress of Otology.—The next meeting of the International Congress of Otology, which had been fixed to take place at Florence in September, 1892, has been postponed until 1893, when it will be held at Rome, a week before the assembly of the Eleventh International Medical Congress.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting. March 19, 1891.

ALFRED L. LOOMIS, M.D., PRESIDENT, IN THE CHAIR.

A Contribution to the Study of Malaria in New York.—DR. WALTER B. JAMES opened the discussion on this subject with a paper. It was based on a study of four hundred cases which were supposed to be largely malarial, the study being in the light of recent knowledge regarding malarial diseases. According to this knowledge true malaria was due to a living animal organism, of characteristic appearance, easily distinguished from all other organisms in the human body found in the blood; in the more acute cases it was a minute amœboid body, containing pigment; in the more chronic cases it was seen swimming about in the blood—a round, crescentic, or oblong hyaline body. He had himself studied the disease as it had been acquired on various parts of the globe, and in all the microscopic appearance of the blood was the same. At the time of the paroxysm one always found a certain number of the protozoa in a state of reproduction. These forms were not found at any other time, and it seemed very probable that the paroxysms were brought on by the ripening, as it were, of the organism.

We were yet unable to say whether there were two distinct varieties; it might be that they were only the developmental change of the same species. This supposition was entirely consistent with what was known of other similar creatures. The author believed, therefore, that we were justified in assuming that malarial disease, however acquired, was the result of a specific organism which existed in the blood, perhaps in other parts, and that a differential diagnosis could be made by examination of the blood.

An enormous amount of literature existed with regard to the soil, climate, etc., in their relation to malaria, but a careful review of it convinced the reader that this phase of the subject was still vague and unsettled. The only way which we yet had to determine whether a given spot was malarial was to put people there and see if they got malaria. There was nothing in the geology of Manhattan Island which would enable us to say whether it would be likely or unlikely to be malarial. This question would have to be determined by clinical observation and microscopical examination of the blood. But anywhere where the disease did exist, it was more likely to occur, or to occur with greater frequency, when the soil had been freshly dug up.

Classifying the four hundred cases clinically in which he had examined the blood during the past four years, there were—1, Cases of fever of an intermittent type; 2, cases of fever of a remittent type; 3, cases of disease other than malaria, but with a supposed malarial element; 4, cases of cachexia; 5, headaches, neuralgias, malaise, etc., of such degrees and periodicity as to suggest the possibility of malarial origin.

Regarding the first class of cases, those of intermittent fever, and in which he found the malarial organism or plasmodium. They all had a striking number of features in common, conforming much more nearly to the classical description of an attack of ague than he had expected. The great majority of them were tertian, a few quotidian, a very few double quotidian. He had not yet seen a single case of quartan intermittent fever. He was surprised to note with what uniformity enlargement of the spleen was present in these cases. He had not seen one which had lasted a week, with the plasmodium in the blood, in which he could not discover the spleen by palpation. Palpation, he said, was much more reliable than percussion in determining the size of the spleen. Ninety-eight per cent. of all the cases in which the plasmodium was in the blood gave a fair history of having acquired the disease while away from New York. It must be borne in mind, however, that his cases came from that district below Seventy-Second Street, therefore he could not speak for the upper, newer end of the city. Cases which failed to show the organism turned out generally to be a variety of disease other than malarial, such as sepsis, tuberculosis, typhoid and other fevers.

Only a few cases of remittent fever were seen, mostly in hospitals and from tropical or subtropical countries, most of them terminating fatally, showing characteristic lesions of pernicious malarial disease. In two he was able to predict a fatal issue because of the amount of plasmodium found in the blood.

Then there was a group of cases of intermittent character, called continued malarial fever, etc., considered by many of malarial nature; cases of variable duration and intensity. The spleen in these cases, according to his experience, was not regularly enlarged so that it could be felt. The fever did not reach a very high point, might or might not fall to normal some time during the day. There was headache, malaise, perspiration, usually more marked in the afternoon. The cases did not react in a striking manner to quinine. Mild indigenous cases of this kind did not show the plasmodium, although it was found in a few cases which had come from abroad.

Then there was a group of diseases not malarial, but with a supposed malarial element, as typhoid fever, pneumonia, rheumatism, tuberculosis, and others, where the symptoms being of an irregular kind seemed to make it necessary to assume the existence of a malarial influence. In only one case of this kind, one of phthisis, had he found the plasmodium in the blood. Considering the rarity of malaria in New York, as shown by his statistics, it did not seem probable that typhoid fever, etc., should often be complicated by this affection.

In the cases of cachexia the organism found in the blood had uniformly been of the crescentic form, in a very few cases together with the amœboid. The spleen could always be made out by palpation; there was always a history of the disease having been acquired away from New York; the crescentic bodies persisted in the blood in spite of quinine. These cases resembled one another very closely, and differed from other forms of cachexia in which the organisms were not found in the blood except in one group in children. In this exceptional group in children the condition would be called by some marasmus, by others scrofula, but the organism was absent, although the spleen as well as the liver was enlarged.

The final class included the neuralgias, malaise, headaches, etc., of considerable periodicity, in which benefit might be obtained from quinine, but more often from Warburg's tincture. He had never found the malarial organism in the blood in these cases except where the symptoms were distinctly of intermittent character. There were several reasons for believing them not to be cases of malaria, among them being that they existed in non-malarial as well as in malarial places, that the spleen was not uniformly enlarged, that the malarial organism was absent, that the periodicity was due to another cause it seemed than that of malaria, in which the development of the germ was of forty hours' duration; then they responded best, usually, to Warburg's tincture, which was not a simple remedy as was quinine.

All these facts pointed to the following indications: 1. That the diseases commonly called malarial in New York City might safely be divided into two groups; *a*, malaria due to a micro-organism which caused ague wherever it existed; *b*, the non-malarial in the sense that they depended upon some other cause. 2. That of the malarial cases it could be said they showed more marked uniformity in symptoms in different cases than was generally believed, and that enlargement of the spleen in particular was present with greater constancy than was commonly supposed. 3. That in the part of the city over which his observations had extended the malarial

poison was indigenous either to a very slight degree or not at all.

Pathology.—Dr. H. M. Biggs being asked to speak of the pathology, said that so far as his post mortem experience had extended it accorded with Dr. James's clinical experience. It had been unusual for him to find well-marked post-mortem evidence of malarial poisoning in patients belonging to New York. Some time ago he had had occasion to look over the histories of four hundred and fifty cases of malarial fever in Bellevue Hospital, and of this number only four had died. One of the four was a case of pernicious malarial fever from Panama. In one death was ascribed to alcoholism, in one to tuberculosis, the fourth could not be traced. He believed the milder grades of malarial fever did not leave lesions post-mortem; reference being made to cases in which death was due to some other cause. As to the plasmodium, he had found nothing which resembled it in the blood of persons who had not had malaria.

Dr. J. M. Byron also spoke of the pathology, limiting his remarks to malaria as it existed in Panama and Egypt, where it was most typical. He said about the only change post-mortem was enlargement of the spleen, and this might be present in other diseases. As to the plasmodium of malaria, he quoted European observers who had not found it to be constant in cases evidently malarial, and he thought entire reliance could not be placed upon it in diagnosis.

The Clinical Aspect.—Dr. A. Jacobi said it had been stated that malaria was due directly to the plasmodium in the blood, and that the severe mental symptoms were caused by its great accumulation in the small cerebral vessels, and not indirectly to a ptomaïne or poison produced by it. If this were true, malaria was different from other infectious diseases, as they arose from the intermediate action of a ptomaïne or poison.

Regarding the clinical aspect of malaria in children in New York City, he said there was not much malaria in the city. There had been a good deal of it in certain localities at different times where improvements were being made, but where drainage was established and the soil left undisturbed, or where it was disturbed only a short time, malaria did not exist to any noticeable extent. It seemed the bacteria did not penetrate soil which had not been dug up. As showing the scarcity of the disease, he said he had not seen a case of malaria the last four or five months.

But what was the cause of remittent types of fever? Might not different germs produce types of malarial fever, as they might produce types of diphtheria? For his own part, he believed that diphtheria was the result of a toxine which might be produced by the staphylococcus or the streptococcus, or of the Klebs-Loeffler bacillus. Might not one form of malaria be produced by the plasmodium direct, while others resulted from a toxine? But he thought we were too much inclined to make a diagnosis of malaria when we did not know how to distinguish between disease and disease. Dr. James having shown that malaria did not exist in New York City, would make physicians somewhat shaky hereafter in such a diagnosis. Catarrhal fever was often mistaken for malaria. He described it as a fever with afternoon exacerbations, lasting about a week, beginning not infrequently with a chill or two, followed by perspiration, terminating by lysis; the mucous membranes might be affected, manifested by cough, disturbance of digestion, diarrhœa.

The Value of Examination of the Blood.—Dr. A. B. Ball presented, in writing, some observations on the value of blood examination, and on the frequency of malaria on Manhattan Island. Examination of the blood by an expert was of invaluable assistance in making a differential diagnosis between malarial fever and a great variety of other febrile disturbances simulating it. In typhoid fever one often suspected the addition of a malarial element from the peculiar course of the disease, yet during the past three years he had found the plasmodium in the blood of but one such case, and in that one there was subsequent unmistakable evidence of malarial infection.

Masked Ague.—In so-called masked ague he thought it was doubtful how far reliance could be placed on the absence of the plasmodium, and he asked if this affection might not be secondary to, rather than the direct result of, the plasmodium—somewhat analogous to periostitis, etc., following typhoid fever, manifesting themselves after the germ had disappeared from the body. But that so called masked ague was as common in the city as the frequent administration of quinine would indicate, he did not believe for a moment. Typical intermittent fever was very rare here.

The Term Malaria Inappropriate.—Dr. William H. Thomson mentioned a case of ulcerative endocarditis, one of gall-stones, and one of pernicious anæmia, which for a time could hardly be differentiated from malarial fever. They were only illustrative of a large class. He said the term malaria was inappropriate, because it meant bad air, while in fact the cause of the trouble was not bad air, but bad things—things which might produce their action by inhalation or by being taken in with the water. But we were only on the threshold of the subject, for, speaking clinically, what man present could deny that we had in New York cases characterized by chills, fever, sweating, complete remission, but differing from typical malaria in the irregularity of their course? Like malaria, they produced anæmia, headache, neuralgic affections. Were we any better off in calling them catarrhal fever, as suggested by Dr. Jacobi, for some cases? If catarrhal fever meant a fever which affected mucous membranes, it was very difficult to say what fever would not? Typhoid fever would be poorly distinguished if it were called a catarrhal fever, yet it certainly affected the mucous membrane of the intestine. We could not say that a certain class of cases commonly spoken of as malarial, and for which malarial treatment was administered, were not really malarial simply because a specific organism had not been found connected with them. When it was shown that ague was a particular form of fever with a specific cause, a great step had been taken, but might there not be other forms of this intermittent disease connected with the plasmodium or other germ? His conclusion was that typical ague was very rare in New York, although it did sometimes occur, but that a similar disease existed here very extensively, especially where streets were turned up. He thought the term malaria should be limited to the cases in which the plasmodium was present.

Four Types of Fever.—Dr. Francis Delafield said he had been in the habit of dividing the cases of fever as a disease which came under his observation into four classes: 1. Patients who had distinct paroxysms of intermittent fever. These were certainly much less numerous in New York City now than they were ten or fifteen years ago, but they were still to be seen. 2. Patients who suffered from paroxysms of fever not preceded by chill, not necessarily followed by sweating, the temperature often quite high, 104° F. or even 107° F., paroxysms coming on at regular intervals, every day, second or third day, and so on. They were not uncommon. 3. Patients who suffered from a continuous fever, lasting usually about two weeks, not often less, not often much longer; the febrile movement well marked, 103° F. to 104° F. when at its height, which was usually in the afternoon; there was usually a great deal of headache, more or less perspiration. There were cases of this kind which it seemed impossible to distinguish from typhoid fever. The first two sets of cases were benefited by the same remedies which were used for ordinary intermittent paroxysms—quinine, Warburg's tincture, arsenic. But the third class never seemed benefited by such remedies; the fever seemed to run its own course and stop when it got ready. 4. The fourth set of patients were to him the most interesting of all because the most numerous. They suffered from an irregular fever, coming and going, seldom lasting

an entire twenty-four hours, but lasting some hours out of each twenty-four; the temperature never very high, 99.5° F. to 101° F. The patients every week or three weeks have fever every day, or every other day, or skip a couple of days; it could not be put down in any regular order. The attack might last a week, a month, or even six months. The patient might have an attack a number of winters in succession. Such patients were private, did not enter hospitals, were not sick enough to be in bed, but were very miserable. The fever was not symptomatic of any disease, but was the disease itself, and when it went away the patients were well. Such patients behaved very capriciously to remedies. Some responded to quinine, others did not, some to arsenic, others not. The only thing which would with certainty stop the fever, for a time at least, was to send them away from New York, but it might return when they came back.

While the discovery of a micro organism as the cause of intermittent fever was very interesting, and made our knowledge much more definite, yet we as practitioners should recognize these other fevers, which, as fevers, not as catarrhs or catarrhal fever, or anything else, made people sick, and the point of practical importance was to find some way to cure the fever. We went on trying to manage these cases with the idea that they were malarial fever, but we did not know whether they were or were not, and some improved, while some did not, under the use of the anti-malarial drugs. We should find a better way of treating such patients, for while they did not die, they suffered a great deal.

Malaria in Children.—Dr. L. Emmet Holt in speaking on this topic said he had been surprised to find how many cases of broncho pneumonia, the first two years of life, gave distinctly a remittent temperature, and which he once thought might be due to malarial infection, but now was convinced was not, and did not respond to quinine. He used to see, when connected with a West Side dispensary, a good many cases of malarial fever in children coming from along the Hudson River and canal boats, and remarked on the uniformity of enlargement of the spleen shown by palpation, not by percussion. In doubtful cases, where the spleen was enlarged and there was prompt response to quinine, the evidence was strongly presumptive of malaria. Few cases originated in New York, according to his experience.

Dr. Simon Baruch quoted from a paper which he had written some years ago, taking the ground that malarial fever was rare in New York, much rarer than would be indicated by the treatment and reports to the Board of Health. This view has been confirmed to-night.

Dr. James, in closing the discussion, impressed the importance of not confounding typical intermittent fever, in which the plasmodium was found in the blood, and which gave a clear clinical history and showed enlargement of the spleen, with other forms of fever, whether the latter might or might not yet be proved due to some specific germ.

Proposed Air-Garden over a Reservoir.—The Academy endorsed resolutions from the Section on Public Health and Hygiene, opposing the erection of an air garden over the reservoir at Forty-second Street and Fifth Avenue.

Public Free Baths.—The resolution adopted by the Northwestern Medical and Surgical Society, recommending to the city authorities the establishing of practically free baths, on the plan advised by Dr. Baruch, and requesting the endorsement by the Academy, was laid on the table until the next meeting, in order that Dr. Baruch might have opportunity to explain it to the members who had not heard his paper on the subject, read elsewhere.

Tuberculosis in Cattle.—Several cases of supposed tuberculosis have appeared among the cattle of Chester County, Pa. Steps are being taken to prevent the spread of the disease.

SECTION ON SURGERY.

Stated Meeting, March 9, 1891.

William T. Bull, M.D., Chairman.

Thiersch's Skin-Grafting; a Case.—Dr. Robert Abbe presented a woman who had sustained a burn involving over two-thirds of the surface of the arm, forearm, and hand, from about the insertion of the deltoid down. A few weeks after the accident granulations had sprung up, and flaps were transplanted from the thigh, according to Thiersch's method, the procedure being carried out at the request of Dr. Abbe by Dr. Dunham. The largest grafts were about half the size of a postal card. All the grafts united at once, leaving the surface smooth and supple.

Report of Three Cases of Nephrectomy.—Dr. F. Kammerer read the history of the cases (see p. 368).

Dr. Willy Meyer thought that where purulent urine was coming from one ureter, and we were unable to determine by the cystoscope whether the urine coming from the other were clear or not clear, we would not be justified in removing the one kidney until by tying the ureter or by other means we had been first enabled to decide whether the kidney on the other side was healthy. He also spoke of prolapsus of the mouth of one ureter as indicative of an irritative process in the pelvis of the kidney.

Dr. Kammerer did not think the mere presence of turbulent urine from one ureter necessarily contraindicated extirpation of the other kidney for disease.

Tube Lost in the Œsophagus.—Dr. R. F. Weir reported three cases, the first being a case in which a tube was lost in the œsophagus. The patient had a malignant stricture, situated fifteen inches from the teeth, was suffering from great difficulty in deglutition, which Dr. Weir was able to relieve greatly by the introduction of one of Simon's tubes. He first introduced a rigid whalebone staff, with a flexible end, through the strictured portion, and over this guide passed down the tube. When it had reached the strictured portion some force was required, which he exerted by means of Mixter's method, that is, he introduced a stiffer rod, one end of which composed a hollow cylinder fitting into the tube which was to remain permanently in place, and passing over the whalebone guide. It was afterward removed, as was also the whalebone guide, leaving the tube in the strictured portion, with a string attached by which it could be removed when desired. In one of his cases, and in one or more others on record, this string, which was fastened to the ear, had been chewed off, and to avoid repetition of the accident he now fastens it to a tooth. In his case the tube, after the string had been chewed off and swallowed, was brought up by aid of an emetic.

Spleen Removed after Gunshot Wound.—Dr. Weir next presented a spleen which he had removed in a case of gunshot wound of the abdomen. The bullet had entered just below the left nipple and had come out in the lumbar region on the other side, about one inch below the twelfth rib. The peritoneal cavity was full of blood, which was found to be coming from the vessels of the spleen. An attempt was made to tie these, but they were too friable, consequently the organ was removed. The small intestine contained four wounds, was fastened in the abdominal opening, with the idea of treating the intestinal fistula afterward if the patient lived. As was expected, he soon died.

Nephrectomy for Primary Sarcoma.—Dr. Weir presented a third specimen, consisting of a kidney—removed on Monday last, for cystic sarcoma—the size of one's head. It was taken out by the transperitoneal method, lifting the edges of the peritoneum to the abdominal wound, establishing drainage posteriorly, taking the tumor out through the anterior wound and closing the peritoneum and abdominal incision. Thus the fluid was kept postperitoneal. One-half the kidney appeared healthy; the fatty envelop was condensed and showed inflamma

tory or possibly neoplastic change, which rendered the operation a little more difficult.

On the Danger of Administering Chloroform in the Presence of an Open Flame.—Dr. R. W. Amidon read a paper on this subject. It had been suggested to him by an experience which he had had when assisting at an operation where pure chloroform was administered in a room in which several gas-burners were lighted. After some minutes he began to suffer from a pungent, irritating gas, which caused great irritation of the respiratory tract, with severe coughing. The dry, irritating cough continued about twelve hours. Another person in the room suffered in the same way. In some published cases the same cause had produced further symptoms of nausea and vomiting. On investigation he had learned that the gas which produced this irritation was phosgene, produced by the decomposition of chloroform in the presence of a flame. While no cases had been recorded in which death could be traced directly to this source, the question suggested itself whether it may not have been the exciting cause of a fatal broncho-pneumonia in some cases after operations. It was disagreeable enough to the operator and assistants, and might prove a serious complication to the patient's malady. The danger was greater where much chloroform was used, the room low and small, and an open gas jet or kerosene stove was burning. The irritating gas did not develop in the presence of the incandescent light. Its formula was $COCl_2$.

Dr. Weir said he had never had cough or respiratory difficulty in a room where chloroform was being administered. Dr. Abbé had had one experience like that described by the author, it being in Dr. Lange's operating-room, where a gas stove was burning, and Dr. Lange said that not infrequently those not accustomed to it were troubled with cough when witnessing his operations. Dr. Willy Meyer had had one personal experience; Dr Kammerer had had none; Dr. van Arsdale had operated and assisted at operations often where chloroform was administered by gas-light, without experiencing any inconvenience, a fact which he was disposed to attribute to the kind of inhaler used, one which prevented admixture of atmosphere; he had known another person who had witnessed the "chloroform fog" two or three times. Dr. Bull had had one striking experience while operating in a country house, using chloroform, two gas jets burning, all present including himself, being nearly overcome until the door was opened. He said it spoke somewhat against chloroform, which was now being urged in abdominal surgery, since most of these cases demanded immediate operation wherever the patient might happen to be. Dr. Agramonte had had no such experience, nor had he heard it mentioned in a recent meeting of obstetricians where chloroform administration was discussed, although this anæsthetic was often used when delivery was about to be completed.

Antiseptic Forceps.—Dr. Van Arsdale presented a wedge-shaped forceps, which possessed the advantage over the ordinary smooth antiseptic kind that, owing to their shape when the blades were compressed, the fingers would not slip.

Demonstration of a new Cystoscope.—Dr. Willy Meyer demonstrated the working of the French cystoscope, which was designed by Boisseau du Rocher, of Paris. The first report regarding it was made to the Académie des Sciences in 1885, but the instrument was not used by others until last year, when B. du Rocher described it at length in an article which appeared in the *Annales des Maladies des Organes Genito-urinaires*, February, 1890. The advantages which this instrument possessed over Nitzer's were more than counterbalanced by the disadvantages.

Medical Legislators.—In the first Japanese Parliament three members of the House of Peers and four of the House of Commons are physicians.

SECTION ON OBSTETRICS AND GYNECOLOGY.

Stated Meeting, February 26, 1891.

Egbert H. Grandin, M.D., Chairman.

Colloid Sarcoma Weighing Thirty Pounds.—Dr. Florian Krug presented a colloid sarcoma weighing about thirty pounds which he had recently removed from a woman by laparotomy. It was of interest because of its very large size and rapid growth. The patient was brought to his office January 30th, and gave the following history: aged thirty-one, mother of five children, the last one born two years ago, nursed until May, 1890; had had no period since. Since last summer she had noticed an increase in size, both she and her physician supposed she was pregnant. When she came to his office she consisted of skin and bones and of a large abdominal tumor, the waist measuring 44.5 inches. There was no fluctuation; tumor of the uterus could readily be excluded. An exact diagnosis could not be made, although it was supposed the growth was malignant. The pulse was rapid, intermittent, and weak, but, with the consent of the patient and husband, he operated February 6th. Although the incision extended from near the symphisis to near the ensiform cartilage, it was necessary to take several quarts of the colloid material out of the tumor before it could be extracted. Adhesions were tied off. The operation, performed as hastily as possible, occupied thirty-five minutes. He left, as the best means of stimulating the patient, a solution of salt in sterilized water, 6 to 1,000, in the abdominal cavity for absorption. Other stimulants were employed. Notwithstanding death was soon expected, yet the patient improved and did very well for four days, then a change took place, and she died on the sixth day from, as the autopsy showed, a fresh pericarditis. There were signs of an old endocarditis.

Dr. Andrew F. Currier said he could sympathize with Dr. Krug, since he had very recently removed a carcinomatous tumor weighing forty pounds from the abdomen of a woman where it had also grown very rapidly; he left salt water in the abdominal cavity, and injected digitalis and strychnine, which had been recommended by Dr. Wood as most desirable stimulants in cases of heart shock, but the patient never rallied. If the tumor were not malignant, he thought it might lessen shock to drive some of the blood from the tumor back into the general circulation by the Esmarch bandage, if this could be applied. These patients, however, were almost sure to die under the operation, and he doubted the advisability of interfering.

Old Diseases Renewed after Operations.—Dr. G. M. Edebohls asked Dr. Krug whether his patient had ever suffered from rheumatism, and said that he had sometimes found patients come back after operations complaining of some trouble which physicians were likely to treat lightly. On further study he had found that old affections, such as rheumatism, rheumatic endocarditis or pericarditis, etc., were liable to recur after laparotomies or other operations, and therefore patients should be kept under observation for some weeks or months after receiving surgical treatment.

Dr. R. A. Murray, having witnessed the operation performed by Dr. Krug, remarked upon the large adhesions, the obstacle to ligating the ovarian and uterine arteries, the objections to the use of Esmarch's bandage in this case, the advantages of Trendelenburg's position, whereby the blood was kept more in the brain and prevented so great shock; and he, with the other speakers, disagreed with Dr. Currier as to letting these patients with enormous tumors go without an operation because it was attended by great risk.

New (?) Method of Fixing the Uterus.—Dr. A. F. Currier related a case of obstinate retroflexion in which he performed laparotomy, removed the diseased appendages on one side, and then fixed the uterus by a method which to him was new, although a modification of the

one proposed by Olshausen. He passed silver wires through the uterus, one on each side, below the opening of the Fallopian tube, then through the abdominal wall, emerging from the skin about three fourths of an inch external to the abdominal wound. He expressed preference for silver wire on account of its remaining aseptic.

The Chairman said the operation was not new, since he and others had performed it, and he agreed with Dr. Krug and Dr. Edebohls, who had said that silk-worm gut was as little likely to take on sepsis as silver wire and was preferable in other respects.

The Atmospheric Tractor—A Substitute for the Forceps.—Dr. P. McCahey, of Philadelphia, by invitation, was to have demonstrated on the manikin the use of the atmospheric tractor, but the manikin at hand was not suitable for this purpose, and he therefore showed the instrument, a kind of cup with handle made of thick, soft rubber, showed its tractile power on the head of the dead baby, spoke of its uses, and compared it with the forceps. The tractor which he exhibited covered an area of about five square inches, and exerted a force, when applied to a wet surface like the head of the newly born, of from twenty-five to thirty-two pounds, or over one-third of the atmospheric pressure, which is fifteen pounds to the square inch. He claimed that the instrument could be applied with facility, furnished a sufficient amount of force to extract the child, was positively harmless, and could be used with perfect safety in both normal and abnormal labors. In normal labors it was employed to shorten suffering. Of course the os must be dilated to a size as great or greater than that of the tractor. The speaker had employed the instrument in about twelve cases, and had delivered in from five to twenty-five minutes, where nature would probably have required two hours or more.

With the tractor one could direct the head through the canal as might be desired, and one of its chief advantages was in prevention of rupture of the perineum. All objections to the instrument had been offered on theoretical grounds, and had not held in practice.

None of the gentlemen present who discussed the use of the tractor had had experience with it, but all seemed pretty generally of the opinion that it would be useful after the head had entered the pelvic canal, and in preventing rupture of the perineum, but that it could not be applied at an earlier stage, especially in primiparæ, or, if it could, that it would not exert sufficient force to take the place of the forceps where this instrument had generally been indicated.

In closing the discussion Dr. McCahey extolled the tractor as a means of lessening the pain of labor, claimed that the objections offered during the evening did not hold in practice, that the tractor could be applied at any stage when the os was sufficiently dilated, and while not asserting that it could entirely take the place of the forceps, yet expressed the belief that it would do so in many cases where these instruments had been used in the past, and not infrequently had caused injury to child or mother.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Stated Meeting, February 16, 1891.

Dr. S. B. W. McLeod, President, in the Chair.

Address of the Retiring President.—Dr. George T. Harrison, the outgoing President, read some remarks upon the advantage to be gained from a study of medical writings of the past. The tendency at present was to neglect the past and to adopt nothing but what bore the stamp of modern. Everything written even only a few years ago, nay, a few months ago, was thrust aside with the sententious expression that it was antiquated. History, as it related to medicine, would prove a corrective of the proneness of the young mind to underestimate the achievements of the past, and to pay undue attention to the new, or what appeared to be new.

Address of the President-Elect.—Dr. McLeod expressed appreciation of the honor conferred upon him; mentioned the objects of these meetings, one of which was to cultivate closer relations with the State and National Associations; incidentally remarked that no political action should restrict our use of medicines because brought from other lands; quoted Peaslee on the advantage of belonging to a medical society and of attending the meetings.

Synopsis of a Letter on the Koch Discovery.—The letter, which was read in abstract, was from Dr. Henry B. Douglas, now of Berlin. The reaction after the injection of the lymph, the letter stated, was in proportion to the amount of tubercular tissues present; that the reason for the reaction ceasing to take place was supposed to be that all the tubercular tissue had been broken down; and one author was of the opinion that when, after an interval, reaction again followed the injections it indicated reinfection elsewhere from previous necrosed broken down tubercular tissue. In tuberculosis of the joints the same reaction took place after the injections, and the sequestrum should then be removed by the surgeon. Local reaction in tubercular meningitis was such as to give rise to dangerous symptoms and contraindicated treatment in that class of cases. While there was no doubt, the author thought, but what the injections would kill all tubercular tissue in the lungs, yet this was only part of the cure. This tissue must be removed, and he suggested that here was a good opportunity for pulmonary surgery.

Perforation of the Membrana Tympani. Dr. Von Beverhout Thompson read the paper. Perforation of the membrana tympani was usually due to chronic suppurative ear disease. It took place in nearly all of this class of cases, and was present in one-third of all cases appearing at the several institutions for disease of the ear in the city during a number of years past. Adding to this number, due to suppurative inflammation of the ear, those which arose from injuries, etc., the percentage of all cases of ear disease which went to the institutions and had perforation would rise to thirty-five. The author here referred to the anatomy and appearance of the membrane, and its use. Besides carrying atmospheric vibrations produced by sound to the ossicles, it also served as a protector for the middle ear. Going on to speak of causes of perforation, he divided the cases under three heads—the congenital, the mechanical, and the diseased. Congenital cases had been spoken of by several authors, but evidently were very rare. Among mechanical causes were the introduction of sticks, small buttons, etc., blows on the head, diving, violent sneezing, cannonading, etc. But the most frequent cause was disease, the pus and mucus in the middle ear being unable to escape through the Eustachian tube, finding their way out through the drum-membrane. The most persistent perforations were due to fevers, especially measles and scarlet fever. Nasal catarrh or "colds" had perforation of the membrani tympani as one consequence. The author related, briefly, three cases in children, in which he thought inflammation and perforation were sympathetic, due to dental irritation. The author was disposed to attach greater importance to a perfect drum-membrane than some had taught. Given a number of cases of perforation, there could be no question but what a certain, though small, proportion of the persons would die from inflammation of the brain or its membranes, of pyæmia, etc. While the power of hearing in cases of perforation was not destroyed, yet it was diminished; a watch which would be heard six feet by the normal ear would probably be heard at one or two feet with the affected ear.

In discussing the treatment the author emphasized the importance of an early recognition of the causes of perforation, as by proper treatment of this the aural lesion could frequently be prevented. In measles, scarlet fever, and throat troubles from other causes, one could not be too early in applying proper remedies to prevent extension of the inflammation up the Eustachian tube. To tell a patient who complained of pain in the ear to ap-

ply a poultice and wait for something to burst would be to court the very result which it was most desirable to obviate. The ear should be syringed thoroughly with warm water, not using much force, then some solution could be injected or applied with a probe and cotton, and repeated every two or three hours until pain was relieved. Dr. Agnew, he said, advised, where pain had lasted over night, application of a leech to the tragus, and if relief were not obtained in three or four hours, incise the drum-head. Often, however, patients would object to paracentesis, yet it should be performed when pain could not be controlled. After incision, inflate the ear through the Eustachian tube, and give anodynes freely. Before incision, however, they should not be given, as they masked the process. As long as there was tendency for matter to become pent up, no harm would come from repeated incision of the membrane. Where perforation had taken place spontaneously from disease, perfect cleanliness was the chief indication obtained from injections. With chronic inflammatory process an astringent was called for after the cleansing, as of sulphate of zinc, nitrate of silver, etc. Reference was also made to the dry treatment by powders.

An artificial drum improved hearing and protected the middle ear from changes of temperature, etc. When there was destruction of the ossicles there could be no benefit from its use, unless as a protection to the cavity. After describing other artificial drums the author exhibited one improved by himself, which he had found the most useful, consisting of a small silver wire wound around an ear speculum so as to form a ring to fit the ear, the two ends then twisted together to project from the ear, and over the ring a thin piece of gold-beater's skin stretched, and tied around the twisted ends by a silk thread. The skin was then shellaced to prevent softening by fluids. The artificial drum was taken out at night.

Perforation a Broad Subject.—Dr. J. H. Claiborne, Jr., was not surprised on listening to the reading of the paper to find that in treating of perforation of the drum-membrane the author had encountered a broad subject; that it had resolved itself largely into a consideration of suppurative otitis media. As to the frequency of perforations, he felt sure more than one-third of the cases seen by him were of chronic purulent otitis media, which meant practically perforation. As to mechanical causes, a very unusual one had come under his observation, namely, loud shouting; measles and scarlet fever were the common causes. He had never seen a case due to diphtheria. As to dental irritation setting up sympathetic inflammation of the ear and perforation, he doubted whether it ever took place; there probably was some other cause which had been overlooked. He agreed with the statement that the presence of an air bubble was a good but not positive diagnostic sign of perforation. He did not use the probe with cotton; it was too dangerous. It were better to leave on a little pus after the injection and apply the medicine over it rather than take the chance of doing injury in removing it with the probe and cotton. As to paracentesis he probably stood alone in opposing it, especially repeated incision. He had had reasonably good success in treating acute inflammation of the middle ear without it. He was strongly in favor of the Eustachian catheter, although it was not much used here and abroad. With the aid of cocaine it could be employed without difficulty. In purulent inflammation with perforation he had found a four per cent. solution of carbolic acid the best application, using it after washing out with a solution of borax or salt. Do not entirely fill the ear with it. As to powders, the majority of aural surgeons now advised great caution in their use. The best artificial drum which he had employed was a small disk of wet cotton. A wire projecting from a drum would be likely to do injury.

Dr. H. S. Oppenheimer said that a common cause of perforation of the drum-head from within was polypoid growths, which had not been mentioned in the paper. Where perforation was likely to take place he much preferred it should be by incision, where it would be even and likely to heal—usually it healed too readily—than by suppuration, where ragged edges would be likely to remain and heal with difficulty. He chose the lower posterior quadrant of the membrane for making the incision. The Eustachian catheter could hardly be used in children, who were often the subjects calling for treatment. As to diminution of the hearing power from perforation, he thought it was not so great as had generally been supposed. He had also found cotton the best artificial drum, and that others with a stem were likely to do harm.

Dr. Thompson, in closing the discussion, said it had been suggested to wrap the projecting wire with cotton to prevent harm.

Correspondence.

THE DISPENSARY QUESTION.

To the Editor of the Medical Record.

Sir: Will you permit me to say a word in behalf of that much-abused institution the dispensary?

First, as to the oft-repeated assertion that it is a pauperizing agency. That it gives medicine and advice to many individuals who could, by an effort, contrive to pay a physician, is true; but that these individuals are thereby pauperized I cannot think. For many thousands of families in New York, life is a hard struggle for the maintenance of respectability. To keep themselves above the tenement-house class costs every dollar that they can earn. In time of sickness, with income reduced and expenses increased, it is almost inevitable that they descend to the level of the tenement-house population; that they lose the respect of their neighbors, to say nothing of their own self-respect, which in all probability is founded, not on abstract philosophy, but on things temporal and physical, and that their children be exposed to the evils, physical and moral, of life in a densely populated, dirty neighborhood. Any institution which helps them to escape this evil, is, it seems to me, doing a most commendable work. The patients at a dispensary are not paupers, any more than the visitors to the libraries, parks, and museums. The value of the public works of Boston, if divided among the families of that city, would amount to about four thousand dollars each, that is, each family may be said to have the use, gratis, of four thousand dollars worth of property. Yet families which have contributed little or nothing toward the erection of these works are not, on that account, considered paupers. Neither should a man who, in time of sickness avails himself of what is freely offered by some of our public-spirited citizens, be called a pauper.

But this, I take it, is a mere side issue. The real cause of all this agitation is the fact that the dispensaries are making it hard for some of the doctors to make a living. Therefore they should be abolished, or their activities restricted! That any self respecting physician should put forward such an argument as this is to me amazing. It is constantly happening that special skill and special kinds of property lose their money value. When petroleum was discovered, the whaler's occupation was gone. Every new machine throws hand-workers out of employment. Nevertheless, petroleum and machinery are good things. Mankind are the better for their existence. So are the hospital and the dispensary good things. Our great cities are vastly better for their existence. Were it possible for every man, woman, and child in New York to secure medical attendance free, to be relieved from the burden of sickness, the community would be by just so much the better off.

As to the physician whose occupation has been taken from him, he must, at the worst, do as the whaler and the

hand-worker have done, find some other occupation. His plight is unfortunate, but it is temporary. The supply of physicians, as of workers of every other class, will adjust itself to the demand. The dispensary is an almost unqualified good, and has, I hope, come to stay. To demand, in a spirit of narrow trades-unionism, that its activities be curtailed, is like demanding that the sun be darkened that the candle-makers may be prosperous; it is a position to be expected, perhaps, from a tradesman, but unworthy a physician and a gentleman. F. R.

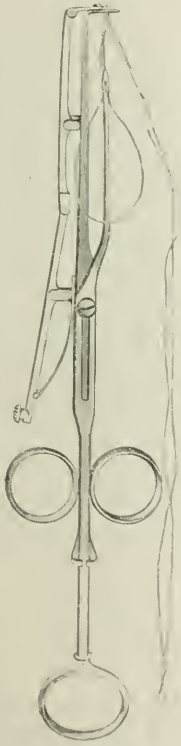
New Instruments.

NEW STAPHYLORRHAPHY-NEEDLE.

By HERMAN MYNTER, M.D,

PROFESSOR OF SURGERY, NIAGARA UNIVERSITY, BUFFALO, N. Y.

DIFFERENT instruments have been invented in order to apply the sutures with greater ease on the soft palate in staphylorrhaphy. Goodwillie's needle is probably one of the best, and not least on account of its simplicity. Nevertheless, I have met with considerable difficulty in using it. Considerable force is necessary in order to force it through the tissue, and the soft palate has to be hooked quite firmly to steady it. The process is quite painful, even under cocaine, and prolonged more than desirable. The instrument I here offer to the profession is a modification of an old instrument shown to me by Dr. John Cronyn, of Buffalo, and invented in 1836 by Dr. W. R. Beaumont, then one of the surgeons to St. Bartholomew's Hospital, London, afterward Professor of Surgery in the University of Toronto. His instrument resembles a pair of scissors, one point of which is curved and has an eye. By closing it the curved point perforates an eye in the other point, on the other side of which the thread is caught by a simple arrangement. It works from side to side, and was used at first in vesico-vaginal fistula, later in staphylorrhaphy; but for the latter operation its construction is faulty, as it acts from side to side. The instrument I here offer acts from before backward. The needle perforates one side of the palate, the double thread is caught behind, and withdrawing the needle we have one loop. Repeating the process on the other side, another loop is secured, which is then passed through the first loop, which is then withdrawn. By aid of the loop left a silver wire or silkworm gut may be quickly applied. The instrument has the advantage of acting quickly and almost painlessly, and of making it unnecessary to use a hook on the palate while the sutures are inserted. It may be procured from Mr. Henry Hermann, of No. 7, W. Huron Street, Buffalo, N. Y., who has carried my idea into perfection.



The Mississippi Valley Medical Association will hold its seventeenth annual session at St. Louis, Mo., Wednesday, Thursday, and Friday, October 14, 15 and 16, 1891.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from March 15, 1891, to March 21 1891.

WINNE, CHARLES K., Captain and Assistant Surgeon. To be Major and Surgeon, February 22, 1891.

FRYER, BLENCOE E., Lieutenant-Colonel and Assistant Medical Purveyor. Retired, February 24, 1891.

GREENLEAF, CHARLES R., Major. To be Lieutenant-Colonel and Assistant Medical Purveyor, February 24, 1891.

WILCOX, TIMOTHY E., Captain and Assistant Surgeon. To be Major and Surgeon, February 24, 1891.

AINSWORTH, FREDERICK C., Captain and Assistant Surgeon. To be Major and Surgeon, February 27, 1891.

HAVARD, VALERY, Captain and Assistant Surgeon. To be Major and Surgeon, February 27, 1891.

VOLLUM, EDWARD P., Colonel and Chief Medical Purveyor; BACHE, DALLAS, Lieutenant-Colonel and Surgeon; GIRARD, ALFRED C., Major and Surgeon; and GANDY, CHARLES M., Captain and Assistant Surgeon. By direction of the Secretary of War, a board of medical officers, to consist of the above members, is constituted, to meet in New York City on March 16, 1891, or as soon thereafter as practicable, for the examination of candidates for admission into the Medical Corps of the Army, and such other business as the Surgeon-General may desire to bring before it. S. O. 52, par. 18, A. G. O., Washington, D. C., March 7, 1891.

RAYMOND, HENRY I., Captain and Assistant Surgeon. By direction of the Acting Secretary of War, is relieved from duty at Newport Barracks, Ky., and assigned to duty at Fort Thomas, Ky., reporting in person to the commanding officer of Fort Thomas, and by letter to the Commanding General, Division of the Atlantic. S. O. 54, par. 18, A. G. O., Washington, D. C., March 10, 1891.

FINLEY, JAMES A., Captain and Assistant Surgeon. Having been found, by an army retiring board, incapacitated for active service on account of disability which is not the result of any incident of service, is, by direction of the President, wholly retired from the service this date, under the provisions of Sections 1252 and 1275, Revised Statutes, and his name will henceforward be omitted from the army register. S. O. 54, par. 2, A. G. O., Washington, D. C., March 10, 1891.

SHANNON, WILLIAM C., Captain and Assistant Surgeon, now on duty at Fort Apache, Ariz. By direction of the Acting Secretary of War, will repair to this city, and report in person to the Adjutant-General of the Army for further orders. S. O. 55, par. 5, A. G. O., Washington, D. C., March 11, 1891.

BIRMINGHAM, HENRY P., Captain and Assistant Surgeon. Granted leave of absence for one month with permission to apply for an extension of one month, to take effect upon arrival at Boise Barracks, of First Lieutenant Robert R. Ball, Assistant Surgeon. S. O. 39, par. 2, Department of the Columbia, March 13, 1891.

MIDDLETON, PASSMORE, Major and Surgeon. By direction of the Acting Secretary of War, is relieved from duty at St. Francis Barracks, Fla., and will proceed to Newport Barracks, Ky., and await further orders. The travel enjoined is necessary for the public service. S. O. 62, par. 8, A. G. O., Washington, D. C., March 19, 1891.

Official List of Changes in the Medical Corps of the United States Navy for the week ending March 21, 1891.

KITE, G. W., Passed Assistant Surgeon. Detached from the New York Hospital, and ordered to the Lancaster.

NORTH, J. H., JR., Assistant Surgeon. Detached from the Lancaster and await orders.

SMITH, G. T., Assistant Surgeon. Detached from the Independence, and ordered to the Mohican.

LUNG, GEORGE A., Assistant Surgeon. Detached from the Mohican, and ordered to Washington, D. C., in charge of insane patients.

CLEBORNE, C. J., Medical Director. Detached from Naval Hospital, Norfolk, Va., and ordered to the Naval Hospital, Chelsea, Mass.

PENROSE, T. N., Medical Inspector. Ordered in charge of Naval Hospital, Norfolk, Va.

STEELE, JOHN M., Passed Assistant Surgeon. Detached from Coast Survey Steamer Bache and granted three months' leave of absence.

GAINES, JAMES H., Surgeon. Placed on the retired list, March 18, 1891.

RUTH, M. L., Surgeon. Granted a month's leave from April 2d next, with permission to leave the United States.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending March 21, 1891.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	14	1
Scarlet fever	159	21
Cerebro-spinal meningitis	1	4
Measles	405	16
Diphtheria	92	29
Small-pox	1	1
Varicella	6	0
Pertussis	0	13
Croup	0	0
Mumps	0	0
Rötheln	0	0

Beriberi and Rice.—Dr. Takaki, of the Japanese navy, came to the conclusion, some years ago, as a result of numerous experiments, that kakke, or beriberi, was due in large measure, if not altogether, to the use of food deficient in nitrogenous and fatty matters. This theory was put to the test of actual experiment in the navy, the food of the sailors being materially changed, in accordance with Dr. Takaki's views, and the result has been that the disease has almost entirely disappeared in that service. The *Sei-I-Kwai Medical Journal* publishes a table giving all the cases of beriberi in the navy from 1878 to 1889 inclusive, in which the result of this change of diet is strikingly shown. The change was effected in 1884. Previous to that year the number of cases had ranged from 1,163 to 1,978, or from 23.12 to 40.45 per cent. of the entire force. In 1884 the number fell to 718, or 12.74 per cent. of the force, while in 1889 there were but 3 cases, or .03 per cent. of the active force. During 1890 the number of sufferers from kakke in the empire was unusually small, and this, Dr. Takaki attributes to the fact that the price of rice was very high, so that the common people were obliged to use much less of it than usual, eating in its place wheat and beans. This investigator is now studying the relation between the number of kakke patients and the quality of food consumed in the public boarding-schools throughout the empire.

The Transmission of Diphtheria from Animals to Man.—Dr. José Brusque, of Pelotas, Brazil, reports several cases in the *Bulletin Général de Thérapeutique* of December 30, 1890, in support of the view that diphtheria may be transmitted from the lower animals to man. In the first case, a farmer had skinned a horse which had died of tonsillitis, his children assisting him in the operation. A few days after this the children were attacked with diphtheria and died. They lived out in the country, and no one in the vicinity had had the disease. The second case was almost exactly similar, except that the victim was an adult. In the third case, a number of chickens belonging to a farmer had died of pip, and had been eaten by the pigs. One of the hogs became soon after attacked with a throat trouble, and in order to prevent asphyxia, the farmer performed a tracheotomy, his little child, five years of age, being present at the time. In a few days this child was seized with a throat trouble, and died without medical assistance. Shortly after her death, her older sister was brought to town to the writer, and was found to be suffering from diphtheria. This family lived twenty miles from the nearest settlement, and had seen no strangers, nor had any member of the family been to the town for a long time.

Quinine and Hæmoglobinuria.—It has often been observed, especially in Italy, that acute intermittent fever may become complicated by hæmoglobinuria, more especially after several paroxsyms have taken place, and it has been supposed by some that the occurrence of this phenomenon was due to the action of the quinine given to control the malarial attacks. Dr. Tiraboschi has, however, investigated this question very thoroughly, and comes to the conclusion that the fever, and not the quinine, is the cause of the hæmoglobinuria. He has seen cases in which this symptom appeared during the administration of quinine in moderate doses, and others in which it has disappeared while the drug was still being given in fairly large amount.

Asiatic Cholera in a Dog.—Professor Ogata, of Tokio, reports a case of cholera occurring in a dog. The dog had been vomiting and purging for some time, and was brought to Dr. Ogata's laboratory by a police-surgeon. After the death of the animal several plate cultures were made of the contents of the small intestine, from which comma bacilli were obtained in almost pure culture. Examination, under the microscope, of a thin piece of the small intestine, which had been kept in alcohol and stained with gentian violet and alkaline methyl blue, showed the presence of the comma bacilli, not only on the surface of the mucous membrane, but also within Lieberkuhn's glands.—*Sei-I-Kwai Medical Journal*, No. 106.

BOOKS RECEIVED.

THE YEAR-BOOK OF TREATMENT FOR 1891. 8vo, 480 pages. Price, $1.50. Lea Brothers & Co., Philadelphia, Pa.

THE IRISH MEDICAL DIRECTORY FOR THE YEAR 1891. 12mo, 708 pages. Baillière, Tindall & Cox, London.

TRANSACTIONS OF THE AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS, VOL. III., FOR THE YEAR 1890. 8vo, Illustrated, 383 pages.

MANUAL OF THE DOMESTIC HYGIENE OF THE CHILD. By Julius Ufflemann, M.D. Translated by Harriet Ransom Milinowski. Edited by Mary Putnam-Jacobi, M.D. 8vo, 229 pages. Price, $1.75. G. P. Putnam's Sons, New York.

DIABETES: ITS CAUSE, SYMPTOMS, AND TREATMENT. By Charles W. Purdy, M.D. 12mo, 184 pages. F. A. Davis, Philadelphia, Pa.

THE DAUGHTER: HER HEALTH, EDUCATION, AND WEDLOCK. By William M. Capp, M.D. 12mo, 144 pages. F. A. Davis, Philadelphia, Pa.

Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 39, No. 14.
Whole No. 1065.

NEW YORK, APRIL 4, 1891.

$5.00 Per Annum.
Single Copies, 10c.

Original Articles.

HEMIANOPSIA.

By HENRY D. NOYES, M.D.,

NEW YORK.

THE subject which I am to consider is a visual manifestation of intra-cranial disorder. My remarks will relate to the visual disturbance rather than to the cerebral pathology. I ask more critical attention to this symptom in the hope that light may be shed upon the intricate problems of cerebral disease. The aim is to reach greater precision in cerebral localization, by closer study of visual symptoms.

Let us briefly sketch the course of the visual tract from the retina to its ultimate destination in the brain. The peripheral percipient elements in the retina are the cones and rods, which are connected by fibres with the outer and inner granule layers and by successive fibres with the ganglion cells; from these proceed the optic nerve fibres. The number of cones and rods is estimated to be seven times as numerous as the optic nerve fibres, and the estimate of optic fibres is between four hundred and thirty-eight thousand (Salzer) and one million (Krause).[2] The optic nerve fibres lie in layers, but in the region of the macula lutea they are finer and in fewer layers, and anastomose freely. At this space the bundles into which they are collected, cannot, as elsewhere, be separately traced. The macular fibres are the most important in function, and are clustered into a triangular bundle composing about one-fourth of the nerve, which enters the papilla at its infero-temporal side. As it pursues its way through the orbital portion, it gradually approaches the axis of the nerve, which it reaches at the optic canal. At the front of the chiasm it occupies its upper and inner portion, but in the tractus it sinks to the central portion and remains there until it arrives at the brain. The semi-decussation of the optic tract in the chiasm is an accepted fact, despite the incredulity of Michel. The papillo-macular bundle is likewise divided into crossing and direct fibres which at the anterior part of the chiasm can be separately distinguished, but at its posterior part and in the tractus become inextricably mingled. The macular fibres anastomose with each other in the retina and they have additional opportunity to do this in the chiasm and the tractus. The tractus winds around the crus cerebri and terminates in two roots upon the corpora geniculata externa and interna and upon the posterior part of the optic thalamus, called the pulvinar. Fibres also go to the anterior pair of the corpora quadrigemina, but these organs are not regarded as concerned in vision, but in the activity of the pupil. The parts just referred to are called the primary visual ganglia.

In them we find innumerable ganglion cells in which fibres of the tractus lose themselves, and thereafter a new set of fibres proceeds backward through the posterior part of the internal capsule to the cortex under the name of the visual radiation, or fibres of Gratiolet or of Wernicke. Passing through the internal capsule they cross the sensitive fibres coming down from the hemisphere, are rather closely massed, and then, spreading out like a fan, rise upward, wind outside the tip of the lateral ventricl to reach their destination at the lower part of the median surface of the occipital lobe.

Varieties of Hemianopsia.—In all cases the dividing line is either horizontal or vertical, the definition not being very exactly interpreted. There may be loss of half the field in only one eye and this points out a lesion of one optic nerve in front of the chiasm. If both upper or both lower half fields are wanting, the seat of lesion will be on the lower or upper part of the chiasm, or of both optic nerves. A case very briefly reported in the *British Medical Journal* for November 22, 1890, had loss of the upper half of the field in one eye, and of the lower half in the other eye. This requires a double lesion in front of the chiasm. Total blindness of one eye combined with loss of the half or of the quarter of the field in the other is explained by a lesion of both nerves, on one side complete, on the other side incomplete. All these are peripheral lesions; and the same is true of the cases of bi-temporal and bi-nasal hemianopsia. Bi-temporal half blindness is explained by a lesion at the middle of the chiasm involving the crossing fibres from both tractus. It may be from tumor (Weir Mitchell), it may be from fracture at the base of the skull, etc.

The excessively rare condition of bi-nasal hemianopsia presupposes a lesion on both sides of the chiasm, or on the outer side of each optic nerve and impairs the direct fibres (Knapp).

We are chiefly interested in another variety of hemianopsia, viz., that which affects the same side of each field and in which the dividing line is nearly vertical. This variety, called homonymous, implies injury of the visual tract behind the chiasm. On this subject most admirable papers have been written, by Starr, 1884; by Seguin, 1886 to 1887; by Hun, 1887; and by Swanzy,[1] in which are set forth other distinctive and localizing symptoms which accompany the visual defects by which the focus of the disease may be more or less accurately determined. To these symptoms I shall only incidentally refer. My purpose is to call attention to some peculiarities in the fields of the vision which have not been generally attended to. I am indebted for much of what I offer to the last monograph by Wilbrand, an atlas of hemianopic defects, 1890, Wiesbaden.

The dividing line in hemianopsia is sometimes precisely on the vertical meridian and straight. That it is many times not on the vertical meridian and not straight has long been observed.[2] This occurs both in the peripheral, *e.g.*, bi-temporal and in the central forms. It may bend around the point of fixation upon the blind side, and thus greatly mitigate the injury inflicted on sight by sparing the whole of the macula lutea. That the boundary of the blind half may not for a considerable extent reach the vertical meridian and may be a sinuous or oblique line, or form an open angle, has also been noted. Wilbrand points out that in 77 cases of homonymous hemianopsia the dividing line was central in 29 cases. In 33 the blind portion was smaller than the seeing portion of the retinæ and to an equal extent in both eyes. In 5 cases the dividing line was in one eye central and in the other eye was pushed away from the fixing point toward

[1] Read before the New York Academy of Medicine, February 8, 1891, and illustrated by lantern slides.

[2] For these statements see Wilbrand die hemianopische Gesichtsfeld Formen, Wiesbaden, 1890.

[1] Transactions of the Ophthalmological Society of the United Kingdom, vol. ix., 1889.

[2] See Schweigger: Graefe's Archiv, vol. xxii., abth. iii., p. 276, 1876.

the blind side. In 10 cases the amount of displacement of the dividing line beyond the vertical meridian was unlike in the two eyes. The blind side is always either smaller in area than the seeing side, or may be equal to it. It is never greater.

Out of 32 cases of bi-temporal hemianopsia in only 9 did the boundary coincide with the vertical meridian. In 12 total blindness of one eye precluded comparison. In 20 cases the blind sides were the smaller. We cannot, at present, draw any practical deductions from these facts, and in explanation of them we have to refer to the anastomosis of the fibres from each tractus in the retinæ as well as in the optic nerves and chiasm where crossing and direct fibres lie in close relation to each other.

But a new significance attaches to this circumstance since the publication within the year of two cases of double hemianopsia, one by Forster,[1] and another by Schweigger.[2]

Forster's case was a man who at forty-four years of age had from apoplexy complete homonymous hemianopsia on the right side, with preservation of 1° or 2° of the field toward the blind side, at the macula.

He had another attack five years later, which befell the opposite side and caused complete loss of the remaining halves of each visual field. The second attack did not reach completeness until after three days. When Professor Forster examined the man six weeks later he seemed to be totally blind in every sense. His pupils were about four millimetres wide and gave a feeble reaction to light. This led to inquiry as to possible vision, and it was found that he could read Snellen $1\frac{1}{2}$ very slowly with each eye; distant vision was about $\frac{1}{10}$. Perimetric examination revealed the preservation in each eye of a central field measuring about $2\frac{1}{2}°$ vertically by 3° horizontally and below the horizontal meridian. It would cover a surface 13.5 ctm. (about $5\frac{1}{4}$ inches) in diameter at the distance of 3 m. There was no perception of color. The ophthalmoscopic appearances were normal.

Schweigger's case was a man seventy-five years of age, whom he had treated for years, for chronic conjunctivitis and incipient cataract. I have been permitted to quote it from advance proof sheets by the kindness of Dr. Knapp. In September, 1888, he had an apoplectic attack with left homonymous hemianopsia, not accompanied by other symptoms. In August, 1889, there came another attack with complete homonymous hemianopsia of the opposite side. The whole of both visual fields was destroyed, except a central space in each eye measuring 2° or 3° in diameter. He had retained as the issue of his first attack vision of $\frac{9}{10}$ and $\frac{5}{36}$ in the respective eyes, and this was not made worse by the second attack. Within these fields there was correct color perception. Over the right half fields, the seat of the last attack, there was some perception of light. By the ophthalmoscope nothing abnormal was to be seen.

Still another case is given by Moeli,[3] which occurred in a man affected by dementia paralytica. He had double hemianopsia at successive periods, but on account of his defective mental state an accurate examination of his fields could not be made. But it was evident that he could see within a very small field.

A case by Bouveret [4] of double lesion of the occipital lobes was so soon followed by death as to preclude careful examination of vision. No other functions were damaged. It is not easy to explain the remarkable facts of these cases. Evidently no explanation can be based upon the anastomosis of optic nerve fibres in any of the peripheral parts of the visual apparatus. We have to do with the preservation of that region of the cortical visual centre which supplies the macula lutea. It has been an open question whether the cortical visual region corresponds topographically to the retina and field of vision, and only within four years has any positive evidence been gained. The case published by Hun showed that lesion of the lower half of the cuneus causes loss of function of the upper quadrant of the retina of the same side, *i.e.*, the lower quadrant of the corresponding field is darkened. The demonstrative character of this case is unquestionable, in regard to a topographical correspondence between the retina and the cortex. Whether the inference can be carried to minute details will be considered presently. The cases of Forster and Schweigger are significant, but not demonstrative. Even should an autopsy be obtained in either it would probably prove impossible to identify the intact regions of the cortex. How they can remain intact when the remainder of the region has lost its nutritive supply, is, of course, conjectural. Forster supposes that there must be a special arrangement of vessels to nourish the macular region of the cortex independent of the posterior cerebral arteries and thinks it may come from fine vessels in the pia mater. An attentive anatomical study of this point might give us information.

There are other cases on record of double hemianopsia, but with no note that any vision remained. More light as to the topographical relation between the retina and the cuneus may come from a counterpart to the cases of Forster and Schweigger.[1] A healthy man, aged forty-five, suddenly found reading confused and difficult without any impairment of distant vision. He could read Snellen 1, although not easily and preferred the small words. Color sense was unimpaired. By the ophthalmoscope nothing abnormal. Their were no cerebral symptoms. Pupils and eye muscles normal; urine negative. By the perimeter there was found a small area of blindness on the right half of each field just touching the macula, about equal to twice the diameter of the optic disk, and in outline and extent precisely alike. They were delineated by a test object 1 mm. square. These isolated twin defects remained unchanged for four years under repeated examinations. Their presence was only embarrassing in near work, and in ordinary vision they were unnoticed. In this case there can hardly be any other explanation of the lesion than that it was situated in the cortex, because it was so minute and so well defined and was sudden in its onset. In the medullary (sub-cortical) substance it would hardly have been so small. Its presence seems to compel the inference that the retina and the cortex answer to each other with a remarkable degree of detail. Further proof is to be found in another case (Fig. 34, Taf. x., Wilbrand). A man aged thirty-four had headache for years, the pain not very severe and not to be precisely located. No vomiting or nausea. Six weeks before being examined he awoke with serious disturbance of sight and noticed with closed eyes a brilliant flashing on the right side of each field. V. = $\frac{1}{2}\frac{1}{0}$; the fundus both normal; urine specific gravity 1030, but without sugar. By the perimeter was found an insular defect of oval form in each right field on the horizontal meridian, at the same distance in each eye from the fixation point. The patient was seen only once.

Another case by Wilbrand is figured at three successive periods within five years, during which time only slight changes occurred in the homonymous defects. They reached from the fixation point to the twenty-third circle of latitude on the left side. The only symptom was severe headache. After five years sugar appeared in the urine.

In all these cases of small homonymous, permanent, and similar visual defects, unaccompanied by serious cerebral symptoms, the evidence points almost certainly to a small lesion of the medullary or of the gray matter in the visual centre.

The quadrant defects, such as Hun has reported, are not very rare. I have seen two cases. In one it was not exactly bounded, because a perimeter could not be used in the patient's bed-room. He was a large healthy man, aged sixty-three, a distinguished lawyer. He had for eight years had hyaline casts in the urine and was accus-

[1] Graefe's Arch. für Oph., vol. xxxvi., abth. 1, 1890.
[2] Archives of Ophth., 1891.
[3] Archiv f. Psychiat, xxii., 1, 101.
[4] Revue Générale d' Ophthalmologie, p. 481, 1887.

[1] Reported by Wilbrand, loc. cit., p. 5.

tomed to examine for them with the microscope. Fourteen years previous he had a small hemorrhage at the macula lutea of the right eye which caused metamorphopsia, but the injury to sight was not permanent—and while a slight zigzag distortion could be noted in fine parallel lines, the defect was not annoying. In April, 1889, he had a cerebral attack whose symptoms were vague, and which came after he had for two days noticed vortices and muscæ floating before him. I was called to him ten days after and found him much depressed in mind; able to converse intelligently, although speech was more than usually slow. He evidently had difficulty in collecting his thoughts. His chief complaint was of confusion of sight and inability to read. There was no paralysis of motion or sensation. There was no headache. There had been pain in the lumbar region. He recognized objects perfectly, could call their names, and remembered the events of the preceding days. His manner was very different from his usual intelligent, although deliberate, character. There was no diplopia; to the ophthalmoscope the eyes were normal. Testing the visual fields with the hand there was found homonymous hemianopsia of the upper two-thirds of the left side. The defect did not include all of the left lower quadrant, and the boundary line could be moderately well defined. I did not see him afterward. He died about seven months later from evident brain lesion, stated to be with signs of softening. There was no autopsy.

Another case of quadrant homonymous hemianopsia which I have noted is as follows: The defect really includes the upper two-thirds of the right half fields, taking in 110°. The man, aged forty, printer, seen at the New York Eye and Ear Infirmary in May, 1887. Indulges freely in alcoholic drink, had been a soldier, and received various slight injuries. Has scars on the head, one over right parietal eminence, one on each side of frontal bone, near fronto-parietal sutures. These were probably received during some of his sprees. Within two years had much headache; denies syphilis and there are no symptoms. On Sunday, May 8, 1887, after having been drunk, noticed that he did not see objects on his right side. Complained that he was afraid of being run over in the street. On examination found to be very myopic, O. D. — 15 D., V. = $\frac{20}{100}$. In the fundus extensive choroidal lesions, both circumpapillary and diffused. In the fields is a homonymous partial sector like hemianopsia on the right side. In the left eye the defect reaches over into the adjacent left side, but here the visual perception remains to a certain degree and is fully accounted for by choroidal changes seen by the ophthalmoscope in the corresponding part of the fundus. Patient is also deaf. He has been observed up to September, 1890, and the visual defect remains unchanged. He suffers constantly from vertigo, which might, perhaps, be attributed to his aural disease, were it not that the symptom has appeared since the eye trouble occurred.

In a case reported by Brill[1] the symptoms were partial hemiplegia and hemianæsthesia on right side, amnesic aphasia and total loss of color perception in both eyes. There must have been right hemiopia although it was not investigated. The lesion was a softened area at apex and lower part of left cuneus, and in adjacent part of gyrus lingualis. It reached within 1.5 ctm. of tip of occipital lobe. The double achromatopsia has great interest and is to be considered in connection with Verrey's case (*vide infra*).

These cases, because of the absence of other cerebral symptoms, point to a lesion of the mesial portion of the occipital lobe. Sector defects may, however, arise from lesions in other parts of the brain. For example, Schweiger[2] gives the case of a woman who, after childbirth fifteen months previous, had hemiplegia and slight aphasia and alexia. All these symptoms passed away. There remained a loss of field on the right side of each eye on the horizontal meridian which included a sector about 20° in breadth. The location of the lesion could not have been cortical exclusively. It may have been subcortical.

A case of sector hemianopsia from tractus lesion is given by Marchand.[3] A student, aged twenty-one years, in blooming health, was examined for myopia and found to have slight double optic neuritis and V. = $\frac{1}{2}$. He was under observation fifteen months and improved in sight nearly to the normal. On his last visit a defect in the upper left quadrant of each eye was discovered. Ten days afterward severe headache occurred, some strabismus, vomiting, coma, and death. At the autopsy a glioma was found in the right temporal lobe near the gyrus hippocampi. It encroached on the outer surface of the tractus at its posterior part, which was softened and reddish yellow, while the rest of it was normal. The defect in the field was caused by the lesion of the tractus.

Another and very recent case of quadrant homonymous defect due to lesion of one tractus is reported by Norris.[4] In this case there were other symptoms besides those of visual disturbance, viz., muscular twitchings, impaired grip of left hand, partial loss of control of left leg, drowsiness, the Wernicke hemianopic pupillary inaction not obtainable, diplopia occurred, and finally complete paralysis of left side. The diagnosis was tumor of the base near the thalamus. At the autopsy a tumor was found at the junction of the right crus cerebri with the temporal lobe. By sections transversely the tumor was found to occupy the white matter within the right occipital and temporal lobes, reaching posteriorly a point just outside the descending horn of the lateral ventricle, anteriorly, and internally at the base it extended to the tuber cinereum and involved the optic tract. Above it reached close to the gray matter of the insula, but did not involve it. It rose about half an inch above the level of the pulvinar; it involved part of the lenticular nucleus, the anterior portion of the internal capsule, and extended laterally to the thalamus. It proved to be a glioma. The complete involvement of the right optic tract in the tumor accounted for the quadrant and otherwise irregular impairment of the visual fields. They were not symmetrical. In the left side more than a quadrant was destroyed and in the right side almost a half, whose border was both oblique and irregular. The extension of the tumor back into the white substance of the occipital lobe doubtless had much to do with the irregular hemiopia.

It therefore follows that absolute localizing value cannot be attributed to sector lesions of the fields. Yet the great probability favors the cortex. In this case the optic neuritis was the only sign until the close of the disease of the nature of the mischief, and this had, at that time, disappeared.

I might call attention to very irregular, but symmetrical types of visual defect. They are found in Schweigger's paper and are quoted in Wilbrand. I have some of my own experience. They may be omitted, except certain very peculiar kinds of which one is noted by Wilbrand and described at length.[5] A man, age not given, short and stout, who had had glycosuria, complained since October, 1888, of dizziness and frontal headache and confused sight. He could see parts of words, and in faces some of the features would be indistinct or invisible and other features clear. The symptoms increasing, he was confined to bed a few days, and during this time visions constantly presented themselves on *the left side*, both with closed and open eyes. He saw landscapes, heads, cats, furniture, etc. The illusions disappeared in a few days. When carefully examined on November 8, 1888, pupils, lids, eye muscles, and fundus were normal. There was correctible myopic astigmatism. The perimeter showed left sided hemianopsia, and by using a small test object 5 mm. square, it was found that the blind half-fields were composed of innumerable insensitive areas separated by openings through

[1] American Journal of Neurology, February, 1883.
[2] Archiv f. Ophthal., Bd. xxii., Abth. iii. p. 297.
[3] Graefe's Archiv, Bd. xxviii., Abth. 2, p. 64, 1882.
[4] Trans. Am. Ophth. Soc., 1890, p. 470.
[5] Loc cit., p. 54, Taf. ix., Fig. 22.

which the object could be discovered. They could not all be mapped out, but one notable scotoma below the horizon is outlined; the heavy, straight, meridian lines show places where the object was seen uninterruptedly. On the 26th of the same month, with increasing general symptoms, an apoplectic attack occurred with right hemiplegia, coma, and death.

Autopsy twenty hours after. Atheroma of vessels at the base. In removing the brain the hemispheres were torn off at the peduncles, and while both were fragile, the right peduncle showed distinct yellow softening. The chiasm and tractus were normal. The same was true of the cortex, except at the tip of the right occipital lobe, which was softened. The softening occupied the third occipital convolution on the upper and medial surface, but below it reached forward to the fusiform convolution and the gyrus lingualis. Section disclosed a hemorrhagic softening, the size of a hazel nut, in the substance of the medullary matter, and the superjacent cortex had undergone yellowish discoloration. There were no lesions of the internal capsule or of the primary ganglia. The concentric limitation of both the right half-fields must be ascribed to the implication of the whole brain, and especially the other occipital lobe, in functional disturbance.

Wilbrand calls attention to the hallucinations which in his case appeared only in the affected half fields and quotes similar cases from Henschen and Putzel.[1] Dr. Petersen has in two papers recently recorded a similar occurrence. The case of Henschen presented lesions of the cuneus and lingual lobe, and that of Putzel involved the cuneus extensively, as well as the internal capsule and the outer border of the thalamus.

In subcortical lesions, as well as in cortical lesions, hemianopsia may be either complete or incomplete, but Wilbrand's case, so far as it goes, indicates that extreme irregularities in the fields are likely to be due to subcortical lesions.

Another feature of hemianopia requires consideration. The function of sight includes three subdivisions: Perception of light, of color, and of form. If the first be wanting, all are wanting. Given the first, either or both the remaining two may be lacking. Illustrations of such defects occur in hemianopsia. Hemianopic loss of color sense in both eyes is the most frequent among these rather rare cases. Of these, Swanzy[2] enumerates eight in literature and in one case there was an autopsy. Verrey reports it in *Archives d'Ophthalmologie*, tome viii., No. 4, 1888. A lady, aged sixty, had an apoplectic attack, from which she fully recovered, except from the disturbance of sight. There was found absolute color blindness in the right half of each field, with reduced, but not complete loss of light and form sense in the same regions. There was no dyslexia nor mental blindness. During twenty months the condition was found to be the same. Finally she died of another apoplexy. I quote Mr. Swanzy's account of the autopsy: "The cause for death was found in a fresh hemorrhage in the right centrum ovale and lateral ventricle, while an old hemorrhagic cyst in the lower part of the left occipital lobe, extending into the temporal lobe on the mesial side, explained the hemiachromatopsia. This cyst was situated between the floor of the posterior horn of the left lateral ventricle and the basal surface of the occipital lobe. It had occupied the white substance of the inferior occipital convolution, and had almost completely destroyed the white substance of the posterior extremity of the occipito temporal convolutions as well as that of the postero-inferior part of the cuneus. The cyst came nearly to the surface of the cuneus and of the occipito-temporal convolutions, having destroyed the deeper layers of their cortex."

Another case by Siemerling (see Fig. 45, quoted by Wilbrand, loc. cit., p. 144) presented on the right side complete hemianopsia combined with total loss of color sense on both left sides. There was mental blindness, and agraphia and amnesic aphasia. Vision was $\frac{1}{30}$. Within three and a half months vision improved to $\frac{2}{3}$. Color perception returned to the left sides and the mental blindness, alexia, and agraphia disappeared. The right hemianopia continued. There were no other symptoms.

A case of Schoeler's[1] presents on the left side of each field complete color blindness, with the addition in the left half of the right eye of a sector at its lower part where there is no light sense. Patient had bad headache, vertigo, attacks of half sight, swimming before the eyes. No organic lesions. After three months the defect in lower part of the field of the right eye disappeared, but the loss of color sense in the left half fields persisted.

The loss of form sense with retention of light sense is to be determined by testing with letters or simple figures held eccentrically. This examination is not readily made, because we have not a standard in habitual use. One may test by holding up fingers. An abatement in form of sense can sometimes be ascertained.[2]

A case from Schoeler and Uhthoff[3] is in point. A man, aged sixty-eight, double hemianopsia. O. D., fingers at ten feet; O. S., fingers at twelve feet. Fundus normal. In right eye central opacity of cornea. Seven days previous was attacked by severe pain and congestion in the head, until his face became dark red; was blind in both eyes for twenty-four hours, and sight gradually increased to the present amount. Is badly nourished, has dyspnœa. Has stenosis of aortic valves, radial pulse irregular and slow, emphysema of the lungs. Has total loss of color sense in both eyes (no defect formerly). In the right half-fields and in the upper sector of the left half-fields has lost the form sense. In the parts just indicated has light sense, as well as in the rest of the fields. In these parts has subjective flashing which he compares to the rustling of wind in the leaves. Under treatment light sense grew brighter. Had several attacks of headache and vertigo, and temporary blindness. Sight improved until in the eye with corneal opacity vision became $\frac{1}{20}$, in the other $\frac{1}{4}$. He died of heart disease a little more than six months later. The visual fields remained the same.

A case by Brandenberg[4] presented right hemianopia, amnesic alexia of a peculiar kind, viz., he could not read words, but could count figures. The hemianopic loss of sight had respect only to perception of form, but not to perception of light. There was also reduced color sense in the remaining half of the fields. The fourth nerve was paretic and on this account it was believed that a double lesion existed.

The centres for form, light, and color sense are all in the cortex of the occipital lobe. Wilbrand places them one above another; light sense external, form sense intermediate, color sense internal. In this view Reinhardt concurs. Others, viz., Verry, Seguin, and Nothragel, think them to be side by side. As Swanzy says relative hemianopsia can only occur with lesions of the cortex, hemianopsia from lesions elsewhere must always include all the visual perceptions. Those cases of hemianopsia accompanied with some peripheral contractions of the other side of the field are due, according to Swanzy, to cortical lesions. A case by Oliver[5] indicates that this opinion may be erroneous, and the case is extremely interesting from the precision with which the visual symptoms were studied and made to furnish evidence of localization. The earlier symptoms were headache, vertigo, temporary blindness during two years and then followed by spasm of the hand, arm, and to a less degree of the leg. There was right lateral hemianopsia. Three weeks later the remaining half-fields became extremely contracted, this contraction most decided for the left eye.

[1] New York Medical Journal, August, 1890, and January, 1891.
[2] Transactions of the Ophthalmological Society of the United Kingdom, vol. ix., 1889, p. 23.

[1] Bericht. 1884, p. 64.
[2] See cases in British Medical Journal, November 23, 1889.
[3] Bericht, 1884, p. 69.
[4] Graefe's Arch. f. Oph., xxxiii., 3, 96, 1887.
[5] Transactions of the American Ophthalmological Society, 1890, p. 479.

Vision, $\frac{5}{10}$ O. U. Hemianopic pupillary inaction plainly elicited and showing interference with the sensory motor arc of the pupils. A hemorrhage into the right optic disk. Diagnosis: "Taken in connection with the right hemianæsthesia and right hemiplegia, the ocular changes probably place the lesion near or in the left optic thalamus (pulvinar)." Autopsy revealed a tumor invading the external portion of the left optic thalamus as well as the corpus striatum almost as far as its anterior third. The capsule was not invaded. The left optic tract as far forward as the chiasm was markedly flattened and pressed upon. The right brain was normal. The tumor was hard, and proved to be a glioma with commencing sarcomatous degeneration. The same remarks may apply measurably to subcortical lesions. But we are apt in such cases to meet with decided distant symptoms in hemiplegia, hemianæsthesia, ocular paralyses, etc.

A symptom often concomitant to occipital lesions on the left side has been referred to, viz., mental blindness and with it amnesic aphasia may concur. It is not necessary to enter into any description of it. But that its locality has been pretty nearly determined is proven by the case of McEwen.[1] A man who had received a severe injury a year previous suffered from deep melancholy and homicidal impulses and paroxysms of headache of indefinite seat. The only localizing symptom was mental blindness, which immediately followed the injury and lasted only two weeks. Acting upon this hint the skull was trephined. It was found that a depressed portion of the inner table of the bone pressed upon the posterior part of the supra marginal convolution and the anterior corner of the angular gyrus. When the bone was restored to place the mental condition of the man was greatly relieved. This case gives more precision than any yet published to our knowledge of the region in which to look for the visual memory of objects. I do not find any other approaching it in this regard, except one referred to by Gowers,[2] in which a lesion is located at the angular gyrus of the left hemisphere (reported by Chauffard), and is said to have caused complete mind blindness during the short time the patient lived. For a list of cases, nine in number, in which this symptom was present in greater or less degree see Starr, "Familiar Forms of Nervous Diseases," 1890, p. 64. See also "Wilbrand die Seelenblindheit."

A case of Deutschman's [3] has interest. A boy, aged fifteen, was kicked by a horse upon the left side of the head. Amnesic aphasia occurred, which disappeared in about a week. Then, examined by Professor D——, complete right-sided hemianopsia was found, including light, form, and color sense, and going through the fixation point. In sixteen to eighteen days this passed away and the power of reading became normal. The explanation is thought to be a superficial clot at first compressing the speech centre and settling down afterward upon the visual centre, and when absorbed, function was restored.

Recoveries from hemianopsia are recorded, and even from double hemianopsia. See *British Medical Journal*, Mr. Lang, November 23, 1889. When distant symptoms coexist recovery is not so likely as when these complications are absent.

It would be an unwarrantable omission to say nothing of the behavior of the pupil as aiding the localization of hemianopsia. See Leber in "Graefe and Saemisch Handbook," 1876, Bd. v., iii., 941. Wernicke and Seguin have dwelt upon it. Briefly it is that while in lesions behind the primary ganglia the pupils may act sluggishly, they will respond if light be thrown upon the blind side of the eye. When the lesion is at or in front of the primary ganglia the reaction of the pupil is suspended for the blind halves of the fields.

Swanzy says, "Loss of the pupillary reflex to light, apart from cases of paralysis of the third nerve, is a sign of lesion of the anterior quadrigeminal bodies or of the optic tracts, and may be utilized to distinguish these lesions from others, which may cause loss of sight by implicating both visual paths beyond the corpora quadrigemina, or both visual centres; for in such cases, notwithstanding the amaurosis, the pupil reflex is maintained. Gudden's investigations [1] showed that there are special afferent fibres in the optic nerves and tracts for the pupil-reflex, distinct from those of vision.

"In cases of hemianopsia, similarly, the pupil-reflex serves to establish a diagnosis between a lesion in an optic tract and one further on in the visual path, or in the visual centre, of the same side. For, if the pupil contracts actively to light concentrated on the blind side of the field, the lesion cannot be in the tract, but if it does not react, the lesion must be in the tract." [2]

A notable instance which emphasizes this indication is related by Wernicke (the case was seen by Brieger).[3] A girl, aged nineteen, presented the following important symptoms of focal lesions: Slight hemiparesis of left side, anosmia and total blindness, with double choked disks. The pupils moderately dilated and acting imperfectly under diffused daylight. The blindness, therefore, could not proceed from the optic nerves, but from a central cause, and must be regarded as a double hemianopsia. Anosmia could be looked upon, like the slight hemiparesis, as a distant symptom and be left out of view in localization. Tumor of both occipital lobes was the diagnosis. At the autopsy there was found a tumor in the right temporal lobe which had caused softening in the right occipital lobe, but the left occipital was entirely free. This accounted for the left hemianopia. The right hemianopia was explained by finding a blood-vessel across the left tractus, where it had made a deep furrow and given rise to tissue degeneration. A correct diagnosis of the case might have been made during life if the peculiar hemianopic pupillary inaction [4] had been looked for. This can only be made out by examination with a single light in a dark room, and the light must fall quite obliquely lest by diffusion the sensitive side of the retina be stimulated.

I have omitted detailed reference to other symptoms which appear with hemianopsia, such as the various kinds of paralysis of sensation and motion. They belong to a discussion of cerebral pathology, and my aim has simply been to give prominence to visual disturbances and point out how a more critical observation may render them more productive of information as to the nature of a cerebral lesion.

The points set forth may be thus summarized:

1. The want of uniformity in the exact location of the boundary between the blind and seeing portions of the fields in hemianopsia.

2. The continuance of a small central field in each eye two or three degrees in diameter, in certain cases of double homonymous hemianopsia.

3. Sectorial defects, homonymous in character, are most likely to have origin in the cortex of the occipital lobe, usually in the neighborhood of the cuneus. In these cases there may be absence of other significant symptoms, except, possibly, agraphia, mental blindness, alexia.

4. Sectorial defects may have origin in the subcortical substance of the occipital lobe, but the defective portion of the fields are not likely to be so well defined in boundaries as in 3, and the loss of light sense will be less complete; there may even be irregular spaces where light is recognized, mingled with blind spaces. In these cases hemiplegia, hemianæsthesia, etc., if present, signify proximity of the lesion to the anterior part of the visual radiation of Gratiolet

[1] British Medical Journal, August 11, 1888.
[2] Diseases of the Nervous System, p. 463, American edition.
[3] Beiträge zur Augenheilkunde, 1890, p. 31.

[1] Sitzungsbu. d. Münch. Ges Morphol. u. Physiol., 1886, p. 168.
[2] The Localization of Cerebral Disease, Trans. Oph. Soc. of the United Kingdom, vol. ix., p. 18. 1887.
[3] Tome iii., p. 336.
[4] This phrase is truly descriptive of the facts and to be preferred to "hemiopic pupillary reaction" which is misleading.

5. Sectorial defects, quadrants, or other figures, can arise from lesions of the tractus (cases of Marchand and Norris), but will be accompanied by other significant symptoms pointing to the temporal lobes or to the base, such as paralyses or anæsthesiæ, etc. In these cases, as in all cases of tractus lesion, the blind region includes loss of light-, color-, and form-sense.

6. Loss of either color-sense or of form-sense, with preservation of light-sense, implies lesion of the cortex of the visual centre either, direct or indirect.

7. The hemianopic pupillary inaction signifies that the lesion is at the middle ganglia of the brain, or in front of them, viz., along the tractus, chiasm, or optic nerves.

8. It is certain that a topographical correspondence exists between the cerebral visual centre and the retina, and that it is precise and extends to details. Hun's case proved that the lower part of the cuneus corresponds to the upper part of the opposite halves of the retinæ, and Wilbrand's cases corroborate Hun's, and carry the relationship to smaller regions in the respective localities.

NOTE.—The perimeter of Priestley Smith is, for convenience of manipulation and of registration, to be preferred, while the small hand perimeter of Schweigger is portable and suited to bedside examinations.

ON CERTAIN HYGIENIC MEASURES IN THE TREATMENT OF CATARRHAL AFFECTIONS OF THE UPPER AIR-PASSAGES.

BY F. H. BOSWORTH, M.D.,

PROFESSOR OF DISEASES OF THE THROAT IN THE BELLEVUE HOSPITAL MEDICAL COLLEGE OF NEW YORK.

WHILE entertaining the belief that catarrhal diseases affecting the upper air-tract are, as a rule, not dependent on any constitutional diathesis, but are, on the contrary, purely local in character, and consequently that the prominent indications for treatment lie in the resort to topical remedies, I do not think our whole duty is done by carrying out such indications, in that much can be accomplished, not only in preventing a return of the disease, but in ameliorating local conditions by the enforcement of certain hygienic measures. Indeed, in many cases, especially in young children, I believe these measures are of greater importance even than local applications.

It is a commonly received teaching that catarrhal diseases are the result of taking cold. I have for a long time held the view that, in a majority of instances, a chronic inflammation of the mucous membrane occurs primarily, and that, as the disease develops, a liability to repeated attacks of cold becomes a prominent symptom. The chronic inflammation comes first, and the acute inflammation develops later. While I believe this to be true, we must accept the fact that the local chronic condition is constantly aggravated by the frequently repeated attacks of acute inflammation which result from the taking cold. Anyone suffering from a chronic morbid process is especially liable, under the influence of even a slight exposure, to repeated attacks of acute inflammation. This acute process, moreover, always locates itself in the point of least resistance, viz., whatever region may be the seat of a chronic morbid process. An exposure to cold results in a sore-throat or cold in the head, in the majority of instances, simply because in our climate a large proportion of individuals suffer from a mild chronic inflammation of the nasal mucous membrane or that lining the naso-pharynx.

It becomes an important duty with us, then, to break up this habit of taking cold. We cannot accomplish this by local treatment. We can do much, however, by enforcing certain general hygienic measures. These are, briefly, first, The enforcement of certain common-sense rules in regard to clothing, and second, The judicious use of the bath.

First, Clothing. It is a popular fallacy that we wear clothes to protect ourselves from taking cold. This view of the matter I regard as to a large extent erroneous. The word "cold," as applied to low temperature, possesses an entirely different significance from the same word used in the conventional expression of taking cold. We wear clothes simply to protect the body from low temperatures. For this purpose the rule should be to wear just sufficient clothing for comfort, and no more. There is evidently more risk in overdressing the body than in a deficiency of clothing.

Taking cold is the result of a disturbance of the heat-producing forces in the body. This heat production is in constant operation, and is ordinarily far in excess of requirement. Hence there is a constant radiation of heat from the surface of the body—under ordinary circumstances, by means of the insensible perspiration; under extraordinary circumstances, by sensible or profuse perspiration. The function of perspiration is the great and important function of the skin. We therefore can easily understand how our greatest safeguard in the avoidance of taking cold consists in maintaining the skin in a state of healthy functional activity. An excessive amount of clothing necessarily hampers this function, and the same can be said of improper fabrics.

The most important article of clothing is the underwear, viz., that fabric which lies in immediate contact with the skin. This should be thin, porous, and highly elastic. If we examine the fibres of various textural fabrics, we find silk, linen, cotton, flax, presenting a straight, inelastic fibre. The wool fibre, on the other hand, is curly and highly elastic. When woven into a textural fabric, therefore, wool presents a material which is highly porous, and which, worn next to the skin, interferes with cutaneous perspiration to a less degree than any other known fabric. Our first hygienic rule, then, should be to insist upon our patients suffering from catarrhal diseases wearing wool underwear.

The elasticity and porosity of the fabric being the most important consideration, the question of warmth becomes secondary. Hence we should always give preference to the lighter and thinner material over the heavy and thick flannels which are so frequently worn, and which are to be regarded as exceedingly objectionable.

Another mistake, which I think is a very serious one in the majority of instances, is changing the underwear according to the seasons. It is the habit of most people, perhaps, to make two, three, and even four changes of underwear in the course of the year. This is always a mistake. The same thickness of wear should be maintained throughout the year. Experience teaches us that this is conducive not only to health but to comfort, in that in this way one is warmer in winter and cooler in summer than if the attempt is made to regulate the thickness of the underwear according to the seasons or the height of the thermometer. Practically we spend a large portion of our time, both in summer and in winter, in about the same temperature. In other words, we maintain our living apartments at a temperature of from 68° F. to 70° F. in winter, and, as far as possible, in summer. During cold weather our outer clothing is usually of a heavy, winter character. Add this to the ordinary heavy flannel underwear, and the necessary result is a certain amount of discomfort, with perspiration, while indoors, and a chill on going out into wintry weather.

Recognizing the fact that the selection of underwear should be made entirely with reference to the functions of the skin, and therefore should be porous, permeable, and such as shall admit of the freest circulation of air, the outerwear is selected entirely with reference to comfort, and we put on heavy overcoats and ulsters simply as protection from extreme degrees of cold. The only rule with reference to the outerwear that is important is, that just sufficient should be worn for comfort, and no more. I think we all recognize the fact that the one who habitually overdresses is the one who suffers most from the cold. In other words, the best protection from the rigors of our severe winter is not altogether in thick top-

wear, but in a healthy, vigorous circulation, and this is best maintained where the functions of the skin are least interfered with.

It may be superfluous to add in this connection, and yet I think it is a law we should bear in mind more frequently, that certain portions of the body are inured to the action of cold, such as the face, head, and neck. If the conventionalities of society demand that these should be covered, the covering should be of the lightest possible kind. Nature has provided the scalp with proper covering, and if headwear had never come into vogue, I am confident that alopecia would have been one of the rarest of diseases. Wrapping up the neck to avoid a sore throat, or wearing a thick pad over the chest, a so-called chest-protector, to protect the lungs, is probably one of the most vicious of habits. The protecting covering to the body should be equally distributed over all. Any excessive covering in one portion tends only to weaken this part, rather than help it. Probably the worst possible place to wear a chest protector is over the chest. The best possible place, undoubtedly, would be on the soles of the feet.

Next to the regulation of clothing, and of quite equal importance I think, is the judicious use of the bath, in the prevention of a cold, and still further in the amelioration of catarrhal difficulties. It is a somewhat prevalent idea that we bathe for cleanliness. Man is not an essentially filthy creature, and if that were the only object in a bath, I take it that the health would not seriously suffer if we did not bathe oftener than once a month. Another fallacy, I think, is that the object of the bath is to open the pores of the skin. I do not think that the pores of the skin ordinarily need opening. As a rule, they maintain their own patency without assistance. What the bath does for us, I believe, is mainly to promote a vigorous circulation in the skin and thereby a healthy activity of the heat-regulating function of the skin. This is the immediate effect. But a still further effect is toning up the nerves and invigorating the whole system. This is best accomplished by means of the cold bath. A warm bath is relaxing and depressing, as a rule.

The Russian and Turkish baths, which have come into such general use in late years, I think are based upon a somewhat erroneous system. As we know, one goes into a room heated to a temperature of 150° F. to 180° F., where, remaining for fifteen to twenty minutes, he undergoes a profuse perspiration. He then goes into a rubbing-room, at a temperature of between 70° F. and 80° F., where he is scrubbed with warm water and soap, and subsequently goes under the cold shower. A serious mistake here, of course, is in going in a state of profuse perspiration into a room where the temperature is 40° F. to 50° F. lower. The change involves no little risk of taking cold. If one goes from the hot room to the cold plunge, and remains in the water until the body is sufficiently cool, the Turkish bath is not especially objectionable. Its value, however, is over-estimated. Certainly a patient suffering with catarrhal troubles should not risk it, as a rule. Moreover, it is a great mistake to suppose that a Turkish bath breaks up a cold, as it is far more liable to aggravate it.

In the use of the cold bath, then, I think we possess a remedy of inestimable value in the hygienic treatment of patients suffering with catarrhal diseases. This should be repeated daily, while tolerated. No general rule can be given in regard to this, because every individual is a rule to himself. If a patient emerges from a cold bath with a sense of refreshment and invigoration, it is beneficial. If the reaction does not come on promptly, of course, the measure must be abandoned.

The best method of taking the cold bath I regard as the tub or plunge. As a rule, the immersion need last but from twenty to thirty seconds, after which one should rub the skin off rapidly with a coarse towel and throw over the shoulders a bath-robe to avoid the chill which the wet skin gives rise to. The cold shower is a luxury, and for those who like it can be easily tried. It is a greater shock however, I think, than the tub. Where the shower or plunge is not tolerated, a cold sponging should be resorted to daily, and if still the reaction is not vigorous, I often direct my patients to sponge with cold water to the waist in the evening, and below the waist in the morning, or *vice versa*.

I have thus briefly stated my views as regards the very great value of the cold bath, as well as the proper regulation of clothing in the treatment of catarrhal diseases. I am disposed to think that by enforcing these measures upon our patients suffering with these diseases very much is accomplished, not only in the prevention of colds but in the amelioration of the local conditions. Moreover, I am confident that in cases of catarrhal troubles, especially in young children where the disease is in its incipiency, the progress of the disease may be arrested and a long course of treatment in later life avoided, as well as the serious complications which so often arise with reference to the ears and other parts in these cases. It would not perhaps be wise to say that these directions can be enforced in all cases. In very young children, perhaps, and also in very old persons, other factors must be considered. In the very large majority of patients, however, I am confident that their enforcement will aid us in overcoming many cases of catarrhal trouble which otherwise would prove obstinate and intractable.

26 West Forty-Sixth Street.

ON THE CAUSES OF ECZEMA.[1]

By L. DUNCAN BULKLEY, A.M., M.D.,

PHYSICIAN TO THE NEW YORK SKIN AND CANCER HOSPITAL.

The causes of disease present the most interesting and yet difficult lines of research in medical science, and it must be acknowledged that we are yet far from sound and incontrovertible positions, even in regard to many of the most common affections which we are called upon to treat. While a certain small number of diseases are recognized as resulting from contagion or infection, in but few even of these has the ultimate element whereby the disease is communicated been determined with any degree of certainty; the brilliant demonstrations of various microscopic organisms, micrococci, bacteria, and bacilli, as the undoubted cause of a certain few diseases, stand out as isolated and notable achievements in medical science. But, after all, as yet these discoveries in the laboratory by the microscope have yielded but meagre therapeutical results, and we are obliged in the main to fall back upon our clinical records to afford us the best practical basis upon which to study and combat disease. Of no affection is this more true than of that inflammatory condition of the skin, exhibiting at times most varied appearances, to which has been given the name eczema; here clinical experience and analytical judgment as to cause and effect are everything, for in this disease, of all others, there is no one uniform cause, no single etiological factor which is to be looked for in every case; and consequently, different cases often require very different treatment. But, although the causative elements of eczema are varied, they are still more or less uniform in different classes of cases, and a little observation and care can readily determine on which line therapeutical efforts are to be directed.

A very careful and extended study of some two thousand five hundred cases of eczema in private practice, of which notes have been taken (to say nothing of a still larger number which have been observed in public practice), has convinced me more strongly than ever of the constitutional nature of the disease, and of the very great importance of a careful attention to this aspect of eczema, in order to obtain permanently successful results in its treatment. It is understood, of course, that by this I do not imply, or believe in, any special poison or dyscrasia in eczema, nor give any endorsement of the popular belief in "bad blood" as a cause of the disease; but

[1] Read before the New York State Medical Society, February 5, 1891.

I do assert most emphatically that there are systemic or other changes in the individual at the bottom of the disease-state which exhibits the eruption known as eczema, and that the latter cannot be produced by purely local means alone.

Local irritants may constantly be observed to produce local inflammation of the skin, in varying degree, which tends to pass off as the local cause is removed; this inflamed condition is a dermatitis alone, and must not be confounded with the disease under consideration. Eczema is, indeed, a dermatitis or inflammation of the skin, as are many other cutaneous affections, but it has also other features which characterize and differentiate it as a disease, which need not be dwelt upon here. As well might the erythematous condition excited by a mustard-plaster be called erythema, and the pustular lesions caused by croton oil or tartar emetic be regarded as an impetigo; or a bullous lesion caused by scalding water could be designated a pemphigus quite as rightly as could many of the forms of local dermatitis be classed as eczema. In the large proportion of cases, in private practice at least, no adequate local cause can be discovered for the occurrence and persistence of eczema; and, on the other hand, in numerous cases it can be observed that the same local stimulus which had previously been well borne by the skin, without the production of eczematous lesions, will, under other and altered conditions of the body, give rise even to a severe eczema, which will then persist, and perhaps resist treatment indefinitely.

In studying the causes of eczema, therefore, with a view to a successful management of the disease, I have been more and more led away from the local agencies, so often emphasized strongly by writers, and have, by force of clinical experience, been compelled to regard the general and constitutional state of the patient; and, I may add, when sufficient attention was given to each individual case, I have seldom failed to find evidence sufficient to warrant treatment other than the local means employed, and that to the advantage of the patient.

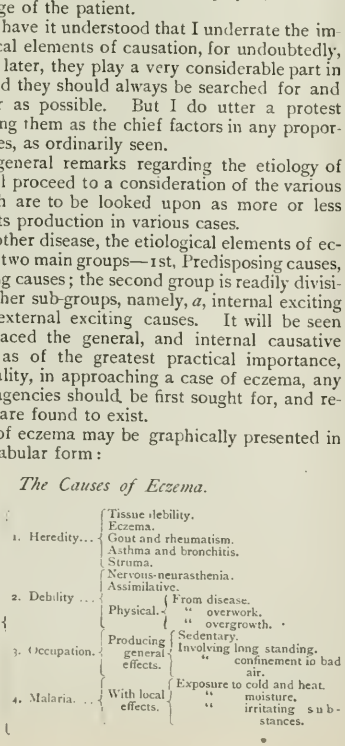
I would not have it understood that I underrate the importance of local elements of causation, for undoubtedly, as will be seen later, they play a very considerable part in many cases, and they should always be searched for and removed as far as possible. But I do utter a protest against regarding them as the chief factors in any proportion of the cases, as ordinarily seen.

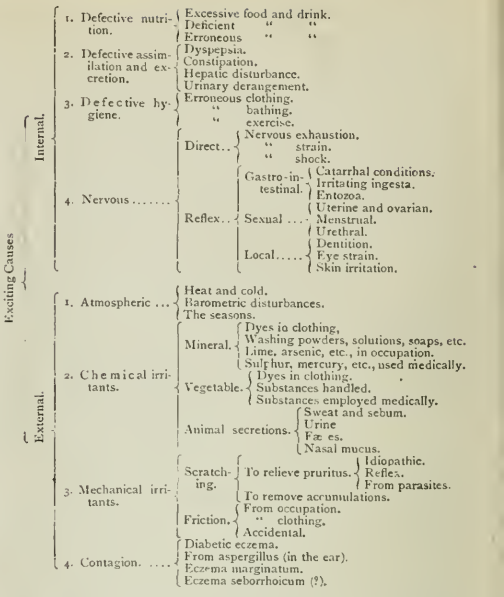
With these general remarks regarding the etiology of eczema, we will proceed to a consideration of the various elements which are to be looked upon as more or less conducive to its production in various cases.

As in every other disease, the etiological elements of eczema belong to two main groups—1st, Predisposing causes, and 2d, exciting causes; the second group is readily divisible into two other sub-groups, namely, *a*, internal exciting causes, and *b*, external exciting causes. It will be seen that I have placed the general, and internal causative elements first, as of the greatest practical importance, although in reality, in approaching a case of eczema, any possible local agencies should be first sought for, and removed if they are found to exist.

The causes of eczema may be graphically presented in the following tabular form:

The Causes of Eczema.





It will be seen that I have here given a pretty long list of elements which are of more or less importance in connection with the causation of eczema. But I assure you that it is not any too long, for there is not a single item on the list which I have not verified to my own satisfaction time and again; and the list is only made up (for the first time, as I believe) from my own experience in dealing with cases of the disease. Moreover, as far as relates to local causes, the list would be very much longer if mention were made of all the possible external agencies which may and do operate in certain instances; but the general classes under which they fall are, I think, mostly included. We will now examine the list a little in detail.

Predisposing Causes.—These we find to be grouped under four main heads, 1. Heredity. 2. Debility. 3. Occupation. 4. Malaria. Careful study will most commonly find one of these elements operating in a large share of cases where eczema is of any great extent or long duration.

1. *Heredity.*—First among the hereditary causes I would place what is here named tissue debility, gotten by inheritance; this represents a certain delicacy of structure with slight resisting power, whereby the skin becomes easily inflamed and has slight tendency to recover tone, and so readily takes on the eczematous process. This, I think, is more commonly an antecedent cause of eczema than is the occurence of the eruption itself in ancestors, which is the next point named; for, in a recent analysis of several thousand cases of eczema I found that in a surprisingly small percentage either the parents, grandparents, or near relatives had suffered from the disease. Gout, rheumatism, and the strumous state have been so long recognized as leading to eczema that I need not dwell upon them. The connection between asthma and bronchitis and eczema is not so generally known; but I have seen gout, asthma, and eczema alternate in so many generations that their connection seems to me undoubted; and bronchitis is continually seen in eczematous patients.

2. *Debility.*—That nervous debility or neurasthenia is a frequent predisposing cause of eczema no one can doubt who will closely study cases over a series of years; innumerable instances could be given of individuals in whom a local irritating agent, which had no injurious effect on the tissues when in perfect health, will operate in a distressing manner when the patient becomes exhausted and has insomnia or other signs of nervous debility.

It will be seen that neurotic conditions are also placed later among the exciting causes of eczema. Physical debility, from disease, overwork, and from rapid development in children is also often seen to predispose to eczema time and again; also debility from assimilative disorders.

3. *Occupation.*—It has occurred to me to see many cases of eczema develop in those who have suddenly, or even gradually, changed their occupation from an active outdoor life to a sedentary one, and in many with sedentary habits it is next to impossible to effect a permanent cure by internal or external measures, or by both combined, unless the habits of life are somewhat changed. Occupations involving long standing, as in laundresses, car-drivers, wood-turners and others, greatly predispose the individuals to eczema of the lower extremities. Continued exposure to the elements predisposes some individuals to eczema of unprotected parts, which, however, may not appear until the addition of some internal exciting cause. We see also cold, heat, and moisture acting as *local* exciting causes of the eruption, and they are therefore also mentioned in this connection later on. Exposure to irritating substances during occupation is also a well recognized element in the active production of eczematous eruptions, as will be dwelt upon later; it may, however, also operate as a predisposing cause, which is inoperative until acting in conjunction with some exciting internal cause.

4. *Malaria.*—This seems to act in several ways as a predisposing cause to eczema, as may frequently be seen by the return of the eruption with each accession or recurrence of malarious influence. I am not disposed, however, to reckon it as an exciting cause, for seldom is the eruption observed in connection with active malarial fevers, but only in those whose systems seem to be pervaded with and altered by the poison. It probably acts secondarily by producing anæmia, nervous disturbance, and liver derangement. Certain it is that some cases of eczema in malarious subjects, or in malarious districts, will not get well and remain so until the malarial element is controlled by proper remedies.

Exciting Causes.—Here we have two classes of agents operating to produce eczema: 1. Those of internal origin, or such as have to do with the patient, as to the diet, mode of life, and the action of various portions of the economy; and, 2. Those of external origin, where the causative elements operate wholly from without, producing inflammatory changes by virtue of local irritant action. Both of these are important in the extreme, and factors in either class may be seen to be followed by eczematous eruption, again and again.

Internal Exciting Causes.—In this class we find that the elements to be considered may also be grouped into four general divisions, according as they relate to, 1. Defective nutrition; 2. Defective assimilation and excretion; 3. Defective hygiene, and, 4. Neuroses.

1. *Defective Nutrition.*—Attacks of eczema are not at all infrequently observed to follow upon errors of diet, and often this is the most important feature to be considered in connection with the disease. The subject is too large a one to enter upon at all fully at the present time, but I wish to emphasize the fact that errors in regard to food and drink, in reference to either, 1, too great quantity (*i.e.*, over-eating and drinking); 2, insufficient quantity, or 3, erroneous kind or quality, should never be neglected in dealing with the disease. Not only is this a very constant factor in infants and young children, but even down to old age the matter must be looked into, or failure in one or the other direction may render all other treatment of relatively little value. The matter of the diet most certainly has much to do with the production and continuance of eczema in a considerable proportion of the cases. Excessive (and often also moderate) use of tobacco will often be found to be followed by exacerbation of the eruption.

2. *Defective Assimilation and Excretion.*—Careful clinical investigation of patients with eczema will show that in a very large proportion of them there exist imperfect assimilation and excretion in a varying degree, and protracted observation of individual cases will demonstrate, time and again, that these functional disturbances have very much to do in causing or precipitating attacks of eczema. This fact is recognized continually by patients, and, I think, more or less by the profession at large; but the tendency is so natural to regard principally the special lesion on the skin, and the difficulty of adjusting proper local measures is often so great, that attention is too often diverted from this line of thought and investigation, and that very much to the detriment of the patient and the hindrance of the cure.

Time and space do not permit of the development of this or other portions of the subject of this paper as could be desired, and I can only urge strongly the most careful attention to this aspect of the study of the causes of eczema; for, I feel confident that it will amply repay all the attention that can be devoted to it in practice.

The dyspepsia present may be of the most varied forms, often so slight as to be overlooked by the patient, or more commonly it is considered a necessary evil. The constipation may also be a natural habit of long duration, which, however, has gradually prepared the way for the systemic disturbances which end in the eruption. The derangements of the liver, so frequently found in eczema patients, belong chiefly to the functional variety, so ably studied by Murchison, which in turn may largely account for the last item in this group, namely, urinary derangements. These latter are often very interesting and instructive in connection with eczema, and repay careful study in individuals, as affording indications for treatment.

As a single illustration of the derangements found in this excretion, I may state that among some 663 examinations relating to 175 cases of eczema, the urine could not be regarded as normal in one half of the cases; and, taking the specific gravity alone, and allowing the wide range of from 1.015 to 1.025, which is regarded by some physiologists as normal, in but 332 instances did it fall even within these limits, in all the other specimens it was above or below this liberal standard of health; 234 specimens showed a specific gravity above 1.025, and 97 that below 1.015. Urinary deposits were also very frequent, uric acid being recorded 108 times, oxalate of lime 157 times, the urates 175 times, and phosphates appeared in excess 140 times.

To anyone who will carefully watch eczema patients for a period of time and closely study the urine in certain cases, it will certainly become apparent that there is more than a casual connection between the eruption and the manifest derangements here referred to.

3. *Defective Hygiene.*—Erroneous clothing will often be an active cause of eczematous inflammation, aside from any irritating character of the same (whether from its textures or dyes), which latter will be mentioned farther on. Over-heating of the skin of infants by excessive wrappings is a fertile cause of eczema of the lower parts, while insufficient clothing may also lead to a chilling of the skin, which is also productive of eruption. While woollen clothing is often removed from eczematous patients, because of its local irritating effects, my experience has firmly convinced me that pure wool should always be worn next to the skin by those who are prone to this eruption, day and night, summer and winter, if possible, in order to secure the greatest immunity from the disease. The sudden chilling of the surface encouraged by cotton in the texture, tends strongly to produce the disease; silk as underclothing does not answer as well as wool. The errors in regard to bathing which will be seen to excite eczema are well known to all, and need not be dwelt upon. Want of proper exercise will frequently be followed by outbreaks of eczema, although, on the other hand, excessive and injudicious exercise will also often be attended with fresh appearances of the eruption.

4. *Neuroses.*—That disturbances of the nervous system may and constantly do play an important part in the active production of eczema, there can be no doubt in the mind of one who has closely observed many cases of the disease, or who has become acquainted with the literature bearing on the subject. This I have fully presented in a recent article on this topic,[1] and will not dwell long on the subject now. It will be seen frequently that prolonged nervous exhaustion, from various causes, will very frequently be followed by attacks of eczema; sometimes this may come only in consequence of loss of sleep for a period, from ordinary causes, sometimes from extra mental worry and work, sometimes simply from the nervous strain incident to business cares or housekeeping, etc. But in many instances the eruption may be observed to recur each time when the same conditions are present.

Sudden and unusual nervous strain will also sometimes be followed quickly by the eruption, and I observed several cases traceable to the excitement incident to the financial crisis on "Black Friday" in Wall Street some time ago.

Nervous and mental shock has been repeatedly seen to be followed by outbreaks of eczema, even in those never previously subject to the disease, and the eruption has been observed to recur also under the same influence.

Eczema also continually appears as a result of reflex nervous disturbances, and these I have divided into such as are owing to, 1, gastro-intestinal; 2, sexual; and 3, local nerve irritation. Time and space forbid developing the proof in regard to these various points, but the most striking illustration is seen in teething infants, where with the accession, or rather the attempt at appearance, of each tooth, we may have recurrence of the eruption on the face or arms.

External Exciting Causes.—The agents or means which may act externally to excite an eczematous eruption, and the circumstances under which it may be produced, are far too numerous to be mentioned individually in a classification, or even in a brief essay; and, moreover, we do not yet know the full measure or number which should be included, for with developing industries, the number is being continually added to, as, for instance, the aniline dyes, which were unknown a few years ago. But, all the local causes may, I think, be grouped under the four general heads of, 1, atmospheric influences; 2, chemical irritants; 3, mechanical irritants; and 4, contagion.

1. *Atmospheric Influences.*—Heat and cold are well-known exciters of the cutaneous circulation, and frequently operate to induce eczema in proper subjects. Barometric disturbances may also be frequently observed to precipitate attacks, and I have had many an eczema patient who could predict a cold snow- or rain-storm, from the warning given by the affected skin. The mere change of the seasons seems to be sufficient in certain individuals to induce an attack, and some patients will have fresh outbreaks of the eruption at definite periods of the year; but in all my studies I have never been able to satisfy myself that in general the eruption was much more frequent at one season than another; some patients are invariably worse in warm weather, others always suffer more in cold weather.

2. *Chemical Irritants.*—These are found to belong to three classes, 1, mineral; 2, vegetable; and 3, animal; and the number and variety of irritating agencies which may be included here are very great, and they can receive only the briefest mention. 1. Mineral irritants are found in articles dyed with the aniline colors, such as socks, gloves, hat-bands, etc. Various substances used in the trades and arts, such as arsenic, bichromate of potash, mercury, alkalies, etc., are often seen to be followed by eczema; also irritants such as lime, in bricklayers and plasterers, while a host of other illustrations could be given, did space permit. Mineral and vegetable substances employed medicinally may also afford the starting point for eczema: thus, we often see it after sulphur and mercurial baths, as also following the irritation of various plasters, arnica, stimulating liniments, etc., indeed there is almost no end to the list of local irritating agencies which at one time or another have caused the lighting up of eczema. The various washing powders and solutions, as also many varieties of soap, will now and again excite the eruption in tender skins, on suitable subjects; the "washerwoman's itch" is too well known to require more than a single mention. 2. Vegetable irritants are also found in certain dyes in clothing, as also in substances handled or brought in contact with the parts, either in occupation, medicinally, or in ordinary life. 3. Irritants of animal origin may be of external origin, but are chiefly those which arise from the secretions from the individual affected. The latter include irritation produced by retained sweat and sebum, seen especially in the folds of the body, that from urine and fæces, occurring principally in infants, and the eczematous inflammation often seen on the lip from disordered nasal mucus.

3. *Mechanical Irritants.*—Direct mechanical irritation is a frequent cause of the appearance and spread of eczema, and foremost here must be placed scratching, which is directly or indirectly responsible for a considerable proportion of the area of eczematous surface seen in many cases. In a skin predisposed to the eruption, and in an individual prepared for the same, a very small amount of scratching can very readily cause a patch or surface of eczema to be developed in almost any desired locality, as can be experimentally demonstrated with the greatest ease. In those subject to eczema more or less pruritus will occur here and there, which if not touched will not develop into any distinct lesion. But generally this is not left alone, for the spot is torn and rubbed until a raw surface appears; this then becomes coated with an exudate, which is again torn off, and the process is repeated indefinitely, with the production of infiltration or thickening in the patch, and the eruption is established in that locality, and then the skin is slow to return to the normal state. If at almost any period of the process all local irritation is taken away, and the part is left absolutely untouched, much of the lesion present will disappear.

This scratching, then, may be practised to relieve pruritus, which may be either, 1, idiopathic; 2, reflex; or 3, from parasites; finally, the local irritation may occur as a result of attempting to relieve accumulations, as in the nose or ear, or crusts which may form on any part of the body, or on the scalp of new-born children.

The second mode of mechanical irritation is from friction, which may arise from harsh or ill-fitting clothing, also from trusses and suspensory bandages, it may also occur in the course of occupation, or may be accidental, as for example, from horseback riding, etc. All of these many forms of mechanical irritation must be recognized and removed if they exist, or treatment will be of but partial and temporary benefit.

4. *Contagion.*—Up to the present time four conditions of the skin classed as eczema are recognized to be due to contagion by means of vegetable microscopic organisms. These are, 1, diabetic eczema; 2, that from aspergillus in the ear; 3, eczema marginatum; and 4, eczema seborrhoicum (?). About the genitals of those affected with glycosuria it is not at all infrequent to find a rebellious form of moist eruption, exceedingly itchy, which is due to the irritation caused by the growth in the skin of the sugar fungus, torula cerevisiæ. In certain obstinate, itching, eczematous conditions of the external auditory canal, the eruption will be found to be due to the presence of the aspergillus. The distinctly marginated eruption often seen about the fork of the thighs, and also in the axillæ, and occasionally elsewhere, where two cutaneous surfaces touch one another, is often spoken of as eczema marginatum, and is due to the presence of the trichophyton tonsurans; it is in reality one of the forms

[1] The Medical News, Philadelphia, January 31, and February 7, 1891

of ringworm, but the eczema element in it is often very considerable, and the common name above referred to will often seem most appropriate. Lastly, we have the eruption about which so much has been written of late years, the eczema seborrhoicum of Unna. As yet it has not been determined at all accurately what the infectious element is, if any, in this eruption, but many clinical features seem to point to the supposition that a micro-organism is the essential cause of the appearance of the lesions.

In presenting thus briefly a systematic sketch of the cause of eczema I am conscious that the work is far from complete, and that it but imperfectly represents the agencies which often combine to produce this protean eruption. But the desire has been to simplify the subject, and, naturally, time and space have prevented the presentation of much that could with advantage be added in connection with many of the points here presented; it is also desired that this paper be suggestive of the need of further study and observation of the true causes of eczema, and it is believed that the framework of a classification of them here exhibited may be made to include all the elements of importance in this connection.

It will be seen, then, that eczema is not always a very simple affair, quite unworthy of serious attention, but that it is one of the great diseases, often having to do with the most varied departures from health in almost every portion of the system. Our present study will, therefore, make more clear the words of Wilson, "to be a successful practitioner in the treatment of eczema a medical man must be an accomplished physician. . . . In a word, the highest and best qualities of medical art and science must be put in practice with foresight and discretion for the treatment of an eczema." If, however, we do not fully accept such a broad statement, I think that our present study will at least explain why many cases of eczema do not recover under the routine treatment of arsenic and oxide of zinc ointment.

4 East Thirty-seventh Street.

AMYL NITRITE AS AN ANTIDOTE TO CHLOROFORM.

By F. A. BURRALL, M.D.,

ex-visiting physician to the presbyterian and charity hospitals, new york city.

In the Medical Record of August 16, 1890, is a brief report of Professor Wood's address on "Anæsthesia," delivered before the International Medical Congress. Regarding the treatment of chloroform-poisoning it is stated that "the author's experiments proved that amyl nitrite, caffeine, and atropine were of little use." This opinion might have been even more comprehensive with a qualification, and it might have been said that in many cases of impending death from chloroform no known remedies are of any avail, especially if there is any delay in their administration. The motto *Bis dat qui citò dat*, could never be more appropriately placed than in such surroundings. Some time since I wrote to a physician who was present at a case of death from chloroform, in which it was stated that the nitrite of amyl was used in vain, for the purpose of inquiring the details of its administration. The reply was that the drug was "used very late, and when all chance of being of any service was apparently over." When the advent of death is so rapid as sometimes occurs after the inhalation of chloroform, every lost instant may prove the cause of a fatal result, and any remedies to be of use must be applied immediately. The opinions and experiments of others on this subject, as well as my own studies and experiments in the same direction, have led me to believe that with arrangements for prompt administration of amyl nitrite lives may be saved which otherwise would be lost, and that there is an essential antagonism between the effects of the two agents.

Professor Wood regards digitalis as of all remedies the most powerful in stimulating the circulation, and an opinion from such a distinguished source, based on study and experience, cannot but be received with due consideration. I have not seen the report of any cases in which digitalis has been used as an antidote to chloroform, and can only depend upon this statement as to its properties. Like the amyl nitrite, digitalis also dilates blood-vessels. Whether digitalis acts with that remarkable rapidity which is characteristic of amyl nitrite I do not know; digitalis has the disadvantage of requiring the hypodermic syringe for its administration, while amyl nitrite can be given hypodermically or by inhalation.

I have long been interested in amyl nitrite, and there is an unusual attraction in the promptness and positiveness of its effects, which has secured for it a permanent place in the materia medica. I was the first to suggest the use of it as an antidote to the syncope of chloroform, in a communication to the New York *Medical Gazette* of June 11, 1870. In another article to the Medical Record of July 20, 1878, on the use of nitrite of amyl in chloroform-poisoning, I further took the view that "the effect which it exerts of overcoming stasis seems to be its most important function. While in the syncope arising from chloroform, the nitrite of amyl exerts its antidotal properties by opening the arterial channels and admitting blood to the brain, in asphyxia, the pulmonary stasis is also overcome, and arterialization follows."[1]

In looking over the medical journals I have met with reports of a number of cases in which it may fairly be claimed that death from chloroform inhalation has been averted by the use of amyl nitrite, and I have subjoined a list of them which I have never fully published before. Deaths from chloroform seem to me to be less frequent than formerly, and I think a majority of the profession still regard it as uncertain and dangerous. Hence none of the cases submitted here are very recent.

They are as follows:

1. Dr. Rufus B. Hinton.[2] Opening of whitlow, Squibb's chloroform used. Patient became deathly pale and ceased breathing. Tongue was drawn forward with tenaculum and five drops of amyl nitrite applied to nose and mouth. Flushing of face with violent beating of carotid ensued. Recovery.

2. Dr. C. Bader, of Guy's Hospital.[3] Iridectomy. A mixture of alcohol, ether, and chloroform given. Patient "suddenly became pale, deeply insensible, with pulse and respiration very defective. Lint with a few (three) drops of amyl nitrite over nose and mouth." Deep inspiration, flushed face, quick pulse, and return of sensibility followed.

3. Dr. C. Bader. Given chloroform to a pale, fat boy, with blue lips and cheeks. Patient became suddenly very faint, the blood turning black, and the breathing becoming very imperfect. Ten drops of amyl nitrite over mouth and nose. "Same quick result, with vomiting, following inhalation of three drops of nitrite of amyl."

4. Dr. Bader. Given chloroform to a middle-aged woman, who suddenly became blue in the face and stertorous, the tongue falling back. Ten drops amyl nitrite on lint over mouth and nose. In a few seconds blueness and stertor were succeeded by good color, regular breathing, and sickness and vomiting, although patient had taken no food for several hours.

5. Dr. G. R. Fowler, of Brooklyn, L. I. Chloroform given for the operation of tracheotomy in a case of diphtheria. During the operation sudden pallor came over child's face, the chin dropped, the pupils became widely dilated, the radial pulse became imperceptible, and respiration ceased. Amyl nitrite was placed over child's nostrils, and artificial respiration practised. The lips and face became rosy; pulse and respiration reappeared.

6. Dr. F. W. Rockwell, of Brooklyn, L. I. Chloro-

[1] British Medical Journal, January 1, 1876, p. 19.
[2] Philadelphia Medical Times, July 31, 1875.
[3] London Lancet, May 8, 1875.

form given in a case of puerperal convulsions. Patient became cyanotic and respiration ceased. Nitrite of amyl administered, and Dr. Rockwell was of opinion that "the amyl in this case saved my patient's life."

7. Dr. S. Baruch,[1] now of New York City. Chloroform given in a case of operation for abscission of prepuce. Face became blanched, respiration ceased, no radial pulse, and lower jaw fell. Amyl nitrite given and artificial respiration practised. After third inspiration "a whiff of nitrite of amyl seemed to enter the lungs, and the patient's face lost its pallor." Recovery.

8. Dr. John Burke,[2] New York City. Chloroform given for operation on the vagina. Patient became suddenly blanched, apparently dead, pulse and respiration ceased. Amyl nitrite administered on handkerchief. Face became reddened, breathing returned, and patient recovered.

9. Dr. R. Riddell, Belfast.[3] "One of the passengers had brought some chloroform on board for toothache. I was summoned in haste to her cabin, and found her quite insensible; pulse not perceptible, and evidently dying. Fortunately, though the nitrite was not in the ship's surgery, I had brought some to experiment with. After inhaling a few drops the heart's action was quickened and strengthened. Three or four times we had to repeat the inhalations before she was out of danger. It is so antagonistic to chloroform that I am of the opinion that it should be at hand at every operation in which chloroform is given."

10. Dr. Edward R. Mayer, of Wilkesbarre, Pa., informed me recently that he has successfully used amyl nitrite for the purpose of averting impending danger from chloroform in a number of instances.

Dr. George F. Shrady, in a paper on "Abuses of Etherization" (MEDICAL RECORD, February 23, 1886), says, "The most trustworthy means of resuscitating desperate cases are artificial respiration, hypodermic stimulation, inhalation of nitrite of amyl, and inversion of the body."

It is, perhaps, unnecessary to add that an interne in one of our hospitals told me that it was the custom, in the hospital with which he was connected, to hasten the progress to consciousness of patients who had been taking chloroform by inhalations of nitrite of amyl.

As has been previously observed, amyl nitrite may be administered hypodermically or by inhalation, in from five to ten drop doses, without fear of any injurious result. The evidence is quite full and clear on this point, and I do not think it necessary to refer to individual authorities.

It is rather a general belief that traction upon the tongue raises the epiglottis and opens the larynx for a freer passage of air. In the report of the address before the International Medical Congress which has suggested this paper, it is advised that the tongue should be drawn forward, as one of the measures to be adopted in averting threatened death during anæsthesia. But Dr. Benjamin Howard has demonstrated before the Royal College of Surgeons, England, and before other learned bodies,[4] that "1. Contrary to universal belief, traction of the tongue cannot raise the epiglottis. 2. By sufficient extension of the head and neck, whether by volition, instinct, reflex action, or by the effort of another—whether in the healthy, the dying, or the dead—the epiglottis is instantly and beyond prevention made completely erect. 3. By complete extension of the head and neck the tongue and velum are, as respiratory obstructions, simultaneously with the epiglottis, removed, and without a moment's delay the entire air-way can be straightened, enlarged, and be made free throughout, by the nearest person."

[1] MEDICAL RECORD, April 17, 1880.
[2] MEDICAL RECORD, February 21, 1880.
[3] Braithwaite, January, 1880, p. 209.
[4] Braithwaite, lxxxiv., from Lancet, October 27, 1839, p. 819.

The experiments of Schuler[1] and Pick[2] have shown that chloroform causes contraction and diminished pulsation of cerebral vessels, while amyl nitrite produces relaxation of all unstriped muscular fibre, especially that of blood-vessels, and causes their rapid dilatation. Schiff found, also, that vascular often precedes respiratory paralysis, as a result of the inhalation of chloroform. In Dr. J. A. McWilliams'[3] experiments made on cats for the purpose of investigating the comparative effects of ether and chloroform, he found that three cats collapsed suddenly, while respiration was going on regularly and efficiently. "The pulse was found in each case to be imperceptible, and after respiration had gone on for some time the heart was found in each case, on opening the chest, to be contracting so feebly as to be entirely ineffectual in propelling the blood. All the animals were resuscitated by rhythmic compression of the heart with the thumb and finger. As a general rule, however, in death by chloroform, respiration ceased before any such failure of the heart's action as to be incompatible with life." It was also found that "an amount of chloroform that could be given with safety during quiet respiration speedily produced alarming symptoms when respiration became rapid and deep." Further than this, it was observed that dilatation of all the cavities of the heart frequently occurred at an early period of the administration of the anæsthetic. This was usually accompanied by a fall of blood-pressure, but there was no interference with the regularity of the heart's action. Firm compression of the abdominal aorta was the most effectual way of increasing the blood-pressure in the carotids when it had fallen to a dangerous degree.

In deciding upon remedial measures we must depend on both the observations of scientists and the teachings of clinical experience. With such light thrown upon the action of chloroform, let us suppose that a patient who is inhaling chloroform suddenly develops dangerous symptoms. Of such symptoms a tendency to fatal syncope is the most frequent. What conditions are present under such circumstances, and what shall be done to avert a fatal issue? We may hold that the cerebral vessels are contracted, and the central nervous system is losing the blood supply on which its activity depends. Circulation and respiration are faltering and death may occur suddenly at any moment. It is not a time for the application of any one method or remedy, but all the usual aids, as well as the reserves of science, should be immediately employed. The first indications are to revive circulation and respiration, since what arouses one seems to awaken the other. I think that, as nearly simultaneously as possible, the head should be lowered, the neck extended,[4] nitrite of amyl given hypodermically or by inhalation, and artificial respiration practised by the Silvester method, since this method is the most convenient. It should not be forgotten that pressure on the abdominal aorta increases the blood-pressure in the carotid. If asphyxia be present, it would seem that the neck should be extended, and the head raised higher than the feet.

This paper would not have made its appearance, as I have already written several articles upon the subject, but I thought it a good opportunity to bring forward these cases in which amyl nitrite has saved life, and thus present the claims of a drug which, up to the present time, has a better clinical record as an antidote to chloroform than any other with which I am familiar.

[1] Berliner Klinische Wochenscrift, June, 1874.
[2] Monograph, 1874.
[3] Journal of the American Medical Association, January 10, 1891, from British Medical Journal.
[4] Dr. Robert F. Weir (MEDICAL RECORD, February 23, 1889) has stated that in some cases in which he had used Dr. Howard's method of opening the glottis, by allowing the patient's head to fall back over the end of the table, he did not find it satisfactory. On the other hand, Dr. Howard's demonstrations were regarded as conclusive. Practising auto-laryngoscopy, I have seen the larynx well open and the epiglottis erect when the neck was extended, but my experiments have been few. Probably some improvement may be made in the method of carrying out the principles laid down by Dr. Howard.

Clinical Department.

SOME COMMENTS ON THE PRESENT THERAPY OF PULMONARY TUBERCULOSIS.

By J. M. W. KITCHEN, M.D.,

NEW YORK.

The Koch method of treating tuberculosis has had its swing of exaggerated importance. It now looks as if the return swing is reaching the length of undeserving condemnation. This is a natural sequence to the hyper-estimation of the remedy, and hopes as to its potency. Professor Koch's own declarations were not sufficiently optimistic to warrant the exalted ideas of the remedy's power that have been formed so widely. It is probable that such over-estimation has been largely due to the lack of appreciation of—or forgetfulness of—the fact that the specific bacillus is not the sole etiological factor in tuberculosis. The great majority of observers will agree that the disease is also due to a pre-existent state of pulmonary or general constitutional mal-nourishment. It is not beyond belief that a strong, healthy individual may become infected under exceptional conditions. But the reverse is certainly the rule. A condition of vigorous health apparently does not confer immunity from the invasion of some disease-germs, but this does not hold in regard to tuberculosis; and, as is well known, a vigorous state of general health has been the only accepted condition of cure for the disease—a condition that of itself has frequently effected cures without medical interference. In the light of the knowledge that the remedy did not kill the bacillus, it has been irrational to expect that the remedy could do more than be of assistance in the general treatment. That it has a certain adjuvant value in the treatment seems to have been already proved. From the experience now accumulated, an outline of its probable usefulness is beginning to be discernible, and some practical guiding rules may be formulated. It has some diagnostic value, but probably not as much as was expected. Some cases of incipient tuberculosis are therapeutically hopeful without its use. Hygienic and tonic treatment alone suffice to effect a cure in these cases when the circumstances of the patient admit of such treatment for a sufficiently lengthy period. In view of the present uncertainty as to the ultimate effect of the remedy, it would seem wise not to use it in such cases. In certain other incipient cases, equally hopeful, except that the patients might be deficient in pecuniary circumstances, or be commencing the course of their disease at the beginning of an inclement season, and when time is a question of prime importance, it would seem that the help of the remedy should be invoked. I am inclined to think that this remedy should not be used in cases where the general tone and resisting qualities of the tissues have not been elevated and established to, and in, a somewhat vigorous status at the time of the inoculation. Otherwise, inasmuch as the bacilli are not destroyed, they would be likely to become more widely diffused and to infect new territory. The question of time is of the utmost importance in many cases. Any case needs every advantage that can be brought to bear on the individual, and it would seem to be a hopeless outlook if the patient has not, in particular, decided climatic and other hygienic advantages. Some patients are enabled to give themselves good environments of this nature for a short time only. Others pass over the hopeful period at the beginning of winter. From a therapeutic point of view there are numerous good summer climates; but there are no very good winter climates in practically accessible and otherwise desirable localities. The best of which I have knowledge is the elevated strip of pine land beginning at about fifty miles below Macon, Ga., and extending into Northwest Florida. The winter climate of this section is much the same as that of Lakewood, N. J., during October. Now, if this class of individuals can have assistance at just the critical time their outlook becomes hopeful. It would seem that the most valuable action of parataloid is to hasten the detachment and expulsion from the body of the pathological products of the process. It quickly effects a result that would follow more slowly in the ordinary course of the disease. Many cases are lost because of the wear and tear of a long-continued struggle with the disease. They probably could be saved if the fight were shortened. In such cases it seems that Koch's remedy will be valuable. There is another class of cases in which it is early plainly evident that all hygienic and other usual methods of treatment will not be successful. It is surely the duty of the physician to give the patient the benefit of the possibility that such treatment in conjunction with inoculation may prove successful in such cases. There is, alas, a large class so far progressed in the disease that interference with parataloid would, with little doubt, only hasten the inevitable end.

Hygiene must, in all probability, ever remain the fundamental resource in any treatment of this disease. Because of its very nature, whatever means of treatment are adopted, there must be a background of constitutional strength and tissue invulnerability to work on. The sources of vitality are pure air, reconstructive and combustible aliment, physical exercise, and certain sources of stimulation. These must be ardently invoked in the treatment of this disease, especially as it must be more or less protracted.

That word stimulation recalls a belief that there are several probable errors quite commonly practised in the usual treatment of pulmonary tuberculosis. One is, that the patient is too frequently gorged with nourishment, and the digestive apparatus consequently kept in a state of disorder. I have seen a young phthisical girl, who always had a clean tongue, increase in stature and improve in health for several years, subsisting mostly on infusions of tea and coffee, but with so small a supply of reconstructive and carbonaceous foods that I decline stating the amount, fearing impeachment of my veracity, or of my powers of observation. The observation has taught me a lesson. A certain strength of arterial tension is desirable, but that can be gained by a frequent liberal supply of pure water. Milk is a good food, and possibly more than three meals per diem is frequently desirable; but very frequently better nutrition can be gained by a decrease in food, both as to frequency in the giving and as to the quantity consumed. The food should be immediately adapted to the digestive ability of the patient, in quality as well as in quantity, rather than to attempt to stimulate the digestive apparatus to accomplish work of which it is only capable during a general condition of vigorous health. Another probable error is the giving of alcohol as a beverage, under the belief that when thus consumed it is a source of force. Stimulation is necessary for life; but there are good and bad methods of stimulation, and unwisely chosen avenues for introducing stimulation to the body. Alcohol, without doubt, can be used so that its preponderating effect is stimulating; but as ordinarily used as a medicinal beverage its preponderating effect is anæsthetic, narcotic, and depressing. The aromatic and flavoring ethers, etc., in certain wines and liquors, are of a certain value in stimulating the nutritive processes, and may be used to that end; but the ultimate preponderating effect of alcohol in the general system is not of advantage in the curative treatment of phthisis; and for such treatment there are better tonic remedies than alcohol. Its use in the alleviative treatment of the disease is another matter.

Alcohol is a wonderful fluid. Perhaps some day a genius will discover means to so strongly antagonize its poisonous effect on the nervous system that we will be able to soak the general system with it so fully, and for so long a time, that even entrenched bacilli must succumb to its penetrating effect. The suggestion is given to the world for what it is worth. Perhaps some day that same world will more completely realize than it does at present the value of preventing disease. There is little

doubt that multitudes of the victims of tuberculosis could be shielded from its acquisition if the health status of such individuals were elevated by the administration of a simple tonic at just the right time. The world will understand some day that an individual in a depreciated state of vitality is in a condition of great danger.

A CASE OF TRAUMATIC PARALYSIS OF THE ABDUCENT AND OCULO-MOTOR NERVES.

By F. E. D'OENCH, M.D.,

NEW YORK.

C. K——, aged sixteen, was sent to me on account of an injury to the right eye which he had received three days before. Some boys had been shooting at a target, using as arrows the ribs of an umbrella, which they had flattened at one end so that they could be placed upon the string. One of these arrows they had left sticking in the target, and in the darkness the young man came forcibly in contact with it. It struck him on the upper lid near the inner canthus and close to the orbital margin, producing a superficial wound about the size of a hempseed. Almost immediately afterward he noticed that he saw double. When I first saw him, three days later, there was a small, subconjunctival hemorrhage in the lower inner part of the eye; the fundus was normal, the pupil reacted promptly, and V. = $\frac{20}{30}$. The eye could be moved outward not quite to the median line, and the mobility upward was also restricted. A candle placed in the median line in the plane of the internal and external recti muscles appeared double, the upper image being about 6″ above the lower and 4″ to the right, and its upper end tipping slightly to the left. This condition of affairs slowly improved, but fully two months elapsed before normal mobility was re established and the diplopia had completely disappeared.

More serious lesions, such as fracture of the bone, tearing of the nerves, etc., can be excluded as the cause on account of the course of the affection, and the paralysis can probably be attributed to a hemorrhage at the apex of the orbit, compressing the abducent and part of the oculo-motor nerves.

SULPHATE OF ZINC IN DIPHTHERIA.

By S. L. KILMER, M.D.,

SOUTH BEND, IND.

The article on diphtheria in the MEDICAL RECORD of February 28th induces me to report the success I lately had in that affection by the use of sulphate of zinc. On Sunday, February 8, 1891, I was called eight miles into the country to see two children supposed to have a severe cold with perhaps pneumonia. Upon my arrival they were found to be suffering from diphtheria, the one, a boy of nine years, having a temperature of 103° F., tongue heavily furred and a typical diphtheritic exudate covering both tonsils and all the visible portions of the mucous membrane of the palate and pharynx. The child had been sick three or four days. The other patient, a girl of eleven years, had been sick two days. She had a temperature of 100° F., tongue slightly furred, throat congested, with one small patch of grayish exudate upon the right tonsil not exceeding a line in diameter.

The mother of the children had about a week or ten days previously returned from assisting in nursing the children of her brother, who resided some eight miles from them; five of her brother's children were sick of diphtheria and three of them died of it, the disease seeming to have been especially malignant.

As to the treatment of these cases details will be omitted. Suffice it to say that it was identical in the two cases, with one exception, viz., in preparing a gargle for the boy, who was so much worse off than his sister, the family all watching the procedure, it seemed appropriate that his treatment should be different, in some respects at least, from that of his sister, and for this reason was added to his gargle (an ordinary tumblerful of water) about fifteen or twenty grains of sulphate of zinc. Upon my visit the next day, my surprise was great to find that about one half of the membrane (diphtheritic) had disappeared from the boy's throat, while the diphtheritic membrane in the girl's throat had enlarged to about half an inch in diameter, and the throat in every way looked worse. The same treatment was continued another twenty-four hours, at the expiration of which time the exudate had entirely disappeared from the boy's mouth and throat, while in the girl's throat it had again at least doubled in quantity, and the general appearance of the throat was much worse. Believing then that the zinc sulphate was entitled to credit for the boy's rapidly improved condition, the girl was supplied with a gargle identical with that which the boy had been using, and twenty four hours later not only had the diphtheritic membrane disappeared entirely, but all the swelling and distress had gone also, and both patients were now convalescent and speedily recovered. No further opportunity for testing the efficacy of this remedy in diphtheria has been afforded. Whether future trials will give equally favorable results remains to be proven. Some corroborative evidence of its efficacy as an antiseptic in zymotic diseases has been afforded me in cases of exanthematous suppurating inflammations about the finger-tips, in which it has since been tried, where its beneficial results were manifested very promptly. I consider the remedy deserving of a thorough test, and shall be happy to learn of its results in the practice of other physicians.

HOT DILUTE SULPHUROUS ACID IN THE TREATMENT OF DIPHTHERIA.

By FRED N. OGDEN, M.D.,

PASSED ASSISTANT SURGEON, U. S. N.

Some time since, on one of our training ships, while she was lying in the harbor of Newport, R. I., there occurred several cases of diphtheria. As is customary, when practicable, in such instances in the U. S. N., the cases were put as far away from the remainder of the crew as possible, and it so happened that on Coasters' Island there was a building which answered the purpose of a hospital, and to this place the patients were sent as soon as the disease developed; thus by prompt isolation and careful disinfection the number was held down to the minimum. There were in all five cases, and I shall speak of them as Nos. 1, 2, 3, 4, and 5. Being in quarantine in the hospital, I had excellent opportunities of watching the progress of the disease in each case.

Cases 1 and 2 reported within forty-eight hours of each other, and when the diagnosis was made they were sent ashore.

No. 1. Temperature, 104° F., face flushed, throat sore, conjunctivæ injected, tongue coated, general malaise. This boy had been on shore visiting friends, and it was known that there were several cases of diphtheria in the town of Newport at the time. His throat showed the usual profuse congestion of diphtheria; there was general depression and a rapid pulse. The condition became aggravated, and on the second day there was a slight deposit on the pillars of the fauces and right tonsil; great pain on deglutition; pulse and temperature the same. On the third day the membrane, which had spread rapidly, extended over the soft palate, the walls of the pharynx, and a considerable way down. The voice was with difficulty heard, and was hoarse and of the character usually developed in such cases; there was considerable coryza and slight nose-bleed. Respiration, 27. The tonsils and the glands at the angles of the jaw were much swollen. Patient mildly delirious.

During this time the treatment had been both constitutional and local, as follows: Hydrarg. submur., 0.7

gm.; sodii bicarb., 0.7 gm., followed in eight hours by a seidlitz powder. On the second day the throat was swabbed out with argenti nit., 2.0 gm.; aquæ, 16 c.c.; and chlorate of potash and muriate tincture of iron were given in large doses when the membrane appeared. Dilute sulphurous acid (4.0 c.c. to water 64.00 c.c.) was given as a gargle, the throat and mouth were also sponged with a weak solution of carbolic acid. In this case the membrane was very extensive in both directions, it was very tenacious and occasioned considerable hemorrhage when portions of it were detached. During the night of the third day the throat symptoms were so severe that it was thought that tracheotomy would be necessary before morning, and all preparations were made; before resorting to this measure it was determined to try boiling water with the sulphurous acid instead of water of the ordinary temperature, and to double the quantity of the acid; this was done and the patient being thoroughly aroused used the gargle for several minutes and repeated it every thirty minutes thereafter; he became easier almost immediately, the respiration becoming less labored and much slower; in a few hours the patient passed into a quiet sleep, and from that moment began to improve.

The gargle was repeated every hour after the patient showed signs of improvement, and in the morning the membrane had not only ceased to form but had to a great extent disappeared.

The delirium had passed away, and the boy was able to pursue the treatment properly and to take nourishment and stimulants with ease. Sulphur was burned continuously in the rooms, and every precaution was taken to prevent the spread of the contagion from this focus. Case 2 was almost identical with Case No. 1 except that it was not so severe, due, as it was thought, to the fact that the hot gargle was commenced sooner by twenty-four hours than in Case No. 1. In the remaining three cases the membrane was not allowed to extend, but was promptly checked and dissipated, so no trouble at all was experienced. In these cases the constitutional remedies were also pushed with vigor. All of these patients recovered, and I have used the same treatment since with the most gratifying results. I give it for what it is worth; and surely, although the number of cases cited is small, the success obtained speaks well for iron and chlorate of potash internally and dilute sulphurous acid (1.600 c.c. to boiling water 128.00 c.c.) as a gargle every thirty minutes to every hour. The most liberal diet and the free exhibition of stimulants, as is well known, aid much in the treatment of such cases.

THE USE OF COCAINE IN CIRCUMCISION.

Dr. A. U. Williams, of Hot Springs, Ark., writes: "In the Medical Record of November 1, 1890, Dr. J. B. Bissell presents some objections to the injection of cocaine for circumcision. I agree with the doctor entirely. There are even more objections than he urges to the injection method of using the cocaine, all of which can be obviated by the plan which I have pursued for the last two years. I place the clamp on the prepuce, make my first cut and then pour on the cocaine freely, allowing plenty of time for the anæsthetic effect. The cocaine stops all pain at once, thus applied; there is no œdema to interfere with the lines of incision, and not so much danger of absorption."

Uterine Hernia through the Cicatrix of a Cæsarean Section.—Dr. Sparling reports the case of a woman, thirty years of age, who was suffering from hernia of the uterus through the cicatrix of a Cæsarean section. The woman was seven months pregnant, and her labor had commenced; she was delivered of a dead child, the head having been pulled off the body by the obstetrician's efforts.—*The Montreal Medical Journal.*

Progress of Medical Science.

The Physiological Action of Kava-Kava.—From a study of this subject Dr. Cerua is led to adopt the following conclusions: 1. Kava-kava produces general anæsthesia, and is especially a powerful local anæsthetic. 2. The drug diminishes, and finally destroys, the function of the afferent nerves, by affecting their peripheral ends. 3. Kava-kava diminishes, and eventually abolishes, reflex action, by influencing the spinal cord, and probably also the sensory nerves. 4. The paralysis produced by kava-kava is of a spinal origin, and is due to an action upon the cord. 5. Kava kava, while increasing the force of the heart, diminishes the number of pulsations, by stimulating the cardio-inhibitory centres and ganglia, chiefly the former. 6. The drug lowers arterial pressure through an action upon the vagi. It afterward elevates it, however, especially after previous division of the pneumogastrics, by a direct action on the heart. 7. Kava kava at first stimulates, afterward depresses, and finally paralyzes, the respiration. The primary stimulation is due to excitation of the pulmonary peripheries of the vagi; the latter effect to an influence exercised on the respiratory centres of the medulla oblongata. 8. Kava-kava, in small doses, increases slightly, and in large quantities diminishes, the bodily temperature. 9. The drug increases notably the salivary secretion.—*The Therapeutic Gazette.*

The Brains of Feeble-minded Children.—The *Alienist and Neurologist* for October, 1890, contains Dr. A. W. Wilmarth's report on the examination of one hundred brains of feeble-minded children. The cases are thus summarized: Sclerosis (with atrophy), 12; sclerosis tubereuse, 6; diffuse sclerotic change. 7; degenerative changes in vessels, ganglionic cells, or medullary substance, not constituting true sclerosis, 15; hydrocephalic, 5; general cerebral atrophy, 2; non-development in various forms, 16; infantile hemorrhage, 1; extensive adhesion of membranes from old meningitis, 3; angiomatous condition of cerebral vessels (with degenerative changes), 1; glioma (with sclerosis), 1; porencephalous (with non-development), 1. Of 31 cases where actual disease or imperfect development of brain proper was not demonstrated, there was hypertrophy of the skull, 6; acute softening (recent), 2; demi-microcephalic, 2; when the brain was above usual weight, but the convolutions large and very simple in their arrangement, 2. Actual cerebral disease existed in a comparatively large number of cases, in direct contrast with the relatively small number of instances where imperfect development seems to have been the causative agent of mental defect. Children inheriting inactive brains from parents below the usual average of intelligence, without history of infantile disease or epilepsy, seem the most promising of general and permanent improvement.

Sterilization of Rubber Catheters.—Dr. Alepy describes a method of effecting the sterilization of these instruments, which possesses, he asserts, the merit of being very effective, easy to carry out, and harmless to the instruments. After drawing attention to the effects of various antiseptics, such as carbolic acid, sublimate, etc., and heat as ordinarily applied, he goes on to describe his own plan, which practically consists in wrapping up the instruments, not more than three or four in a packet, in ordinary blotting-paper, the ends of which are just twisted up. These packets are then placed in glass tubes, the mouths of which are sealed with a plug of cotton wool. The glass tubes are exposed for half an hour to ordinary steam, that is, to a temperature of 212° F. The packets of blotting-paper are then removed, and kept in a drawer or box till they are required for use. They remain sterilized for any length of time provided the paper is not opened, as is shown by the fact that they are incapable of infecting either sterilized bouillon or sterilized urine. —*Annales des Maladies des Organes Génito-urinaires.*

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & Co., Nos. 56 and 58 Lafayette Place.

New York, April 4, 1891.

MORBID FEARS AND ALLIED DISORDERS.

IN nervous disease it is not women alone who are capable of fears and subject to fears. Neurasthenics of either sex often become martyrs to dread and apprehension, quite at variance with the serene courage of their normal mental constitution. With every new discovery in science, and with every new convenience, a morbid fear may be developed. In England there is already a horse-car phobia, and the telephone promises to mark some victims for its own. Lack of exciting cause is not a reason why fear of high buildings is as yet non-universal in American cities. Agoraphobia in a woman, the first clinical case in nine years, seemed to Dr. C. W. Suckling, of London, sufficiently rare and interesting to form the basis of a paper that appeared in a recent issue of the *American Journal of the Medical Sciences*, this paper treating of pathophobias and their significance. These morbid states, the author cited looks upon as conditions of partial emotional insanity, similar to minor degrees of *folie de doute*. Neurasthenia, according to Kovalensky, may reasonably be considered the soil from which spring degenerative psychoses or neuroses, the unstable condition of the nervous system being inherited or acquired. The children of persons in whom nerve-force is defective present organic modifications of the nervous mechanism that dispose to these degenerative psychoses and neuroses. Of the first, idiocy is an example; and of the second, neurasthenia, hysteria, and insanity. Beard calls neurasthenia the "American disease," but Dr Kovalensky thinks it might more correctly be named the Russian disease. At all events, it is no respecter of persons or governments, and continues to manifest itself by various expressions of unpleasantness, of which morbid fears are not the least.

The essential feature of agoraphobia, one of the most important of the morbid fears, is an abnormal dread of an open space. Perfectly well in his own house, the patient experiences great fright on attempting to go across the street, or into an open field, and has to run to the shelter of some wall, or he may fall down from weakness that is augmented by violent palpitation and a dreadful feeling of oppression about the heart. As a rule, there is no vertigo, confusion of mind, or loss of consciousness, though pallor and profuse perspiration are usually present. Special senses are for the most part unaffected. The condition may be gradual or sudden in its onset, the patient realizing thoroughly the folly of groundless fears that he has no power to overcome. Will is in abeyance and subservient to violent emotional disturbance. The most trivial circumstances may bring relief, as walking behind a cart, or the presence of a child following the sufferer. It is possible to cross a ploughed field alone, but open meadow lands are as terrifying as undiscovered countries. Home banishes the active symptoms, though a sense of exhaustion remains. In severe forms, agoraphobia renders its unhappy victim a complete prisoner. This state of mind, which is essentially neuropathic, and not hysterical, may last a lifetime, may last months, years, and then disappear, or be followed by definite symptoms of insanity.

Environment as a factor in the production of morbid fears and mental depression, Dr. Suckling thinks of an importance not always sufficiently realized. Small, stuffy, and uninteresting rooms, dingy quarters, and dark houses, exert a most pernicious influence upon mental and physical health. A patient afflicted with mental depression and suicidal tendency was found to live at his place of business, cramped and restricted in every way, where he worked about sixteen hours out of the twenty-four. Lodging out of town, riding horseback to and from business, and diminishing working hours to eight, banished a mental state that might otherwise have resulted in suicide or insanity. From the foregoing, lessons of moment may be learned. Voiceless surroundings are living teachers, always taking part in the education of man on his way through the world. The true instinct of noble things, the pure desires of healthful aspiration, take mankind out of doors, for it is nature who never did betray the heart that loved her. Over-strained by the fret and noise of large cities, with brains and spinal cords jarred by continued treading over stone and brick on an almost uninterrupted level, without wide range for the eye, and with no possible escape from the monotony of monochrome streets, it becomes the American town-dweller's imperative duty to organize family flights into green fields and pastures new, as many times a year as circumstances will allow. The summer exodus is not enough. Why not adopt a sort of bank holiday for the preservation of family health, and arrange that each member of a household shall have an outing of two or three days four times a year? The use of such restoratives as earth, air, sea, and sky at stated intervals, might prove the wisest kind of economy. Therapeutically as well as spiritually speaking, to lift tired eyes unto the everlasting hills brings strength, and the health that is a saving grace. Of course, in all conditions of pathophobia and allied disorders, the cause must be sought for and removed, and the excellences of valerianate of zinc, the hypophosphites, iron, quinine, and phosphorus, ever borne in mind and thoroughly appreciated. But over and above all this rises the first duty of the physician. which is to break up the tiresome aspects into new forms, and thus liberate the victim of pathophobia from the evil enchantment of adverse surroundings.

THE COLOR-CURE OF CANCER.

THE idea has come into the mind of more than one worker in pathology and the art of healing, that the dye

which stains so beautifully pathogenic microbes and the cells and nuclei of diseased tissue outside of the body might be turned to good account in treatment. In theory the idea is excellent. If a staining fluid will attack bacilli in living tissue and render them incapable of making further injury, or by penetrating to the nuclei of pathological cells cause these cells to cease their multiplication, we have at once a treatment which strikes in a most scientific manner at the very root of the evil. Sad as it is to make the admission, theory and practice are twins which are no more alike than though they were distant relatives.

Professor von Mosetig, of Vienna, conceived the idea of staining the cell nuclei of inoperable neoplasms, and thus leading to arrest of development, or possibly to necrobiosis. Methyl-violet or pyoktanin is the coloring agent employed, and injections are made with solutions of from one in two hundred to one in five hundred.

The results, so far as recorded in the original communication, published in the *Wiener Mediz. Presse*, No. 6, do not show any cures as yet, but a number of extensive malignant tumors have been much reduced in size, and improvement has been marked. In a subsequent communication to the Vienna Society of Physicians Mosetig reports upon sixteen further cases of carcinoma and sarcoma treated by his method. A solution of one to five hundred has been found sufficient; but he advises that it be filtered through heated asbestos, and the injections made in a concentric manner from the healthy surrounding tissues. From three to six grams can be used at one sitting.

No bad effects have been observed from parenchymatous injections even when made in parts richly supplied with blood-vessels, and Ehrlich has injected methyl violet into the blood-vessels of rabbits without injury. The effects are said to be produced by softening, fatty metamorphosis, and resorption, in non ulcerating growths, where the skin is intact. Professor Billroth has employed the method in some thirty cases. In three instances of non-ulcerating sarcoma the softening process was followed by ulceration, and this was looked upon as an indication of injurious effect. There was no evidence of resorption.

In carcinoma no beneficial results were obtained. According to Billroth the effects are due simply to the swelling-up properties of the injected water, and he has ordered at his clinic that the injections shall be interrupted as soon as softening is noted, and only begun again if shrinking takes place. In this way, however, treatment is rendered slow, and, in the meantime, the malignant tumors grow rapidly.

It would appear from reports already published in the RECORD that the method is meeting with some favor here, and as it is being tried in several quarters, we shall hope soon to present to our readers something more definite regarding it.

THE OFFICIAL REPORT ON THE USE OF TUBERCULIN.

AN official report has been issued by the German Government giving the results of the use of tuberculin in all the Prussian Universities. The report makes a ponderous volume of 900 pages, and contains the results of treatment, by over sixty physicians, of 1,769 cases.

The diseases treated include tuberculosis in all its forms. The number of deaths occurring during the treatment was only fifty five, and these were chiefly of persons suffering from advanced phthisis. In early phthisis there was not a single death. Among the joint cases there were six deaths.

The number of cures, however, is also very small, being but thirteen among patients with internal tuberculosis, and fifteen among those with joint tuberculosis and lupus.

There were, however, among 951 cases of phthisis, 171 cases markedly improved, 194 slightly improved, and 586 not improved.

Among 683 cases of joint tuberculosis and lupus there were 148 considerably improved, 237 improved, and 298 not improved.

Even allowing for insufficient lapse of time, and the necessary existence of many severe and ill-suited cases the results are most discouraging. Among the seventeen hundred cases, one half were not improved at all. Plainly tuberculin is very far from being the specific from which so much was hoped.

THE GRIP AGAIN.

THERE can be no doubt that the country is suffering from a slight recrudescence of the grip. The term "slight" applies to this city and to most parts of the country. In Chicago and in parts of the West and South, however, it seems as active as it was a year ago. The warm weather is approaching, however, and it is not likely that we shall have a severe epidemic.

LIEBREICH'S TREATMENT OF TUBERCULOSIS.

WE are inclined to take the statement of Professor Liebreich regarding the value of his new method of treating tuberculosis with a great deal of reserve. Professor Liebreich is no doubt a learned man, and he gave us chloral, for which it may be questioned whether humanity should be thankful. His later therapeutic contributions have been of much more questionable value. Lanolin, though widely advertised is not very highly esteemed, while Liebreich's attempts to find a better anæsthetic than cocaine were signal failures.

His present remedy for tuberculosis is cantharidate of potash, and his theory of its action is that it produces a transudation of serum, especially in the capillaries of diseased localities. The transudation of serum may have therapeutical effects in two ways: (1) by nourishing the cells and bringing back to their normal condition badly nourished cells; and (2) by the disinfecting action of the serum at the affected spot.

Professor Liebreich says: "If it can be proved that in cantharidin we possess a means of producing an increased secretion of serum at any one spot, we may succeed in concentrating at this spot efficacious substances, which, under ordinary circumstances do not easily find their way there. We know substances that circulate in, and are decomposed by, the blood, but which only with difficulty pass through the capillaries. But if we know that

at an affected spot the exudation from the capillaries is facilitated, we can imagine that a larger quantity of an efficacious substance may find its way to this spot, thus strengthening the otherwise feeble disinfecting power of the serum. It seems to be not unlikely that such a combination of two remedies might possibly lead to a new therapeutic method. As regards practical application, special attention should be paid to the kidneys. It is clear that this treatment should not be applied where there is disease of the kidneys. I should advise doses of one decimilligramme to begin with, followed by an experimental increase to two decimilligrammes. It is as well to let a day elapse between the injections."

Cases have been shown in which the treatment has caused "wonderful improvement" And it is but just to say that Virchow, who has been very systematically inserting his scalpel beneath the fifth rib of "tuberculin," has spoken favorably of the "canthardate."

Perhaps after all the bacillus will have to bow down to the blister.

THE NAVAL MEDICAL SERVICE.

Mr. Tracy, Secretary of the Navy, is evidently no friend of the medical profession, nor is he very keen for the improvement of the *personnel* of the service, if one may judge from the following Washington despatch printed in the New York *Times*. The writer says:

"The medical corps of the Navy is still experiencing considerable difficulty in filling vacancies in the grade of assistant surgeon. Several candidates have recently been examined by the New York Board, but none was successful. The San Francisco Board has been dissolved because no candidates presented themselves. The medical colleges are now being canvassed by tempting circulars sent out by the Navy Department. The reluctance felt by students toward entering this branch of the Government service is obvious. Until Congress has increased the pay and conditions aboard ship of assistant surgeons, medical officers say that it will be impossible to keep the corps recruited to its full quota unless the standard of examination is reduced. This Secretary Tracy has absolutely refused to do."

The Naval Department is expending enormous sums in the building of ships; but, after all, these new monsters of the sea cannot be efficiently utilized without a high class of officers and men. Money expended in promoting this end would be wisely spent, and it is difficult to understand why, when millions are spent on experimental ships and guns, a few thousands cannot be used for raising the standard of the medical service to that of the army. As it is now, it looks as though it was involuntarily boycotted.

"TRACHEAL TUGGING."

Dr. R. L. Macdonnell calls attention (*The Lancet*, March 7, 1891) to a symptom designated as "tracheal tugging" which he thinks is pathognomonic of aneurism of the arch of the aorta. The symptom has been observed by Dr. George Ross, of Montreal, and is described by him in Wood's "Reference Handbook of the Medical Sciences." Dr. Ross there says: "Another physical sign of very great diagnostic importance, and which is also to be obtained by the educated sense of touch, is what is now known under the term 'tracheal tugging.' It is but quite lately that attention has been directed to this method of examination, and it is only now that its value has been realized. If a deep-seated aneurism be present which impinges at all upon the trachea or one of its principal divisions, then a very distinct and unmistakable tugging downward will be felt with each systole of the heart. When the heart is acting strongly, or when aortic incompetence is present, considerable rhythmical pulsation may be communicated to the fingers from the adjacent carotids, but with a little care this cannot be mistaken for the tugging directly downward above described. I have observed a number of cases of thoracic aneurism, cardiac and other thoracic diseases, with reference to this sign, and I have never observed it produced by any other condition but aneurism." The symptom was first described, however, by Surgeon-Major W. S. Oliver in 1878, and the method of examination given by him is as follows:

"Place the patient in the erect position, and direct him to close his mouth and elevate his chin to the fullest extent, then grasp the cricoid cartilage between the finger and thumb, and use gentle upward pressure on it, when, if dilatation or aneurism exist, the pulsation of the aorta will be distinctly felt transmitted through the trachea to the hand. The act of examination will increase laryngeal distress should this accompany the disease."

According to Dr. Macdonnell, this symptom, though one of positive value, has never been studied or looked for by hospital physicians, with a very few exceptions. He collects the histories of twenty-five cases occurring in the Montreal General Hospital, and finds that in seventeen the symptom was present.

A THERAPEUTIC EVOLUTION.

The whirligig of time brings its changes in medicine as in other departments of knowledge. Silent and slow, but sure and steady, is the evolution of therapeutics from the mystical and coarsely empirical to logical and rational methods.

The use and abuse of quinine is an illustration of the iconoclasm which in this enlightened era beats relentlessly upon hoary tradition, or more recent opinions, if these cannot meet it by physiological, pathological, or other truly scientific evidence.

The malarial idea which has prevailed so long in this city, despite the protests of men whose lives had been spent in malarial countries, has just received from the able paper of Dr. W. B. James, and the discussion following it, a report of which appeared in our last issue, a *coup de grâce* from which it is not like to recover.

The extent to which malaria was accepted as an almost universal pathological factor in this city was graphically delineated in a paper which appeared in our issue of November 10, 1883, by Dr. Simon Baruch. The author, who had removed to this city from a malarial section of the South, was astonished to discover the reputed prevalence of mild, severe, and fatal malarial fevers in midwinter in this Northern city. He claimed that New York does not furnish the combination of elements necessary for the production of true malarial fevers, except to a limited extent, and in circumscribed localities; that it is

utterly impossible for five hundred and eighty-six deaths (as recorded by the Board of Health) from malarial diseases to occur from January to April, with an average temperature of 33.98° F. He cited clinical evidence, the accepted favorable prognosis of malarial fever in temperate climates, and the report of Dr. Russel to prove that the errors of diagnosis of malaria have conferred upon New York a reputation which is as unenviable as it is unmerited.

These arguments seem to have remained unanswered, save by the continued appearance of malarial diseases as causes of death in this city. In 1888 there were reported 842 deaths, in 1889, 742 deaths from malarial diseases, the largest proportion of which seem to have occurred during the winter months, the smallest during the summer.

Dr. Baruch has long ago shown the fallacy, indeed the absurdity, of such statistics, inasmuch as even in tropical climates fatal malarial disease occurs chiefly, if not entirely, during the summer months, and in sub-tropical countries they cease after frost.

Dr. James' conclusion, that "in this city malarial poison is indigenous either to a very slight degree or not at all," confirms most positively by microscopic and clinical evidence the conclusions arrived at by Dr. Baruch regarding the erroneousness of the usual diagnosis of malaria and the abuse of quinine in this city, and presumably elsewhere.

Pathological and clinical evidence is also furnished by the discussion of Dr. James' paper.

The abuse of quinine is fortunately not prejudicial to life; but the groping for diagnosis is decidedly prejudicial to patient and doctor. If the recent discussion will serve to call a halt in both directions, it will subserve a useful purpose.

MALTHUSIANISM.

A CORRESPONDENT, referring to an item in the MEDICAL RECORD regarding the Malthusian ideal of marriage, asks us to tell him what it all means. The Rev. Mr. Malthus was an English gentleman who in the beginning of this century attempted to show that the population of the world doubled every twenty-five years, or in about a geometrical ratio; while the means of subsistence increased in an arithmetical ratio. Hence he predicted eventual starvation for the human race unless artificial checks to population were introduced. His advice was "Do not marry until you have a fair prospect of supporting a family," and, as a matter of fact, his ideal of marriage was simply one in which the head of the family could support his prospective children. Practically, however, a childless marriage is often referred to as one of a Malthusian character, since it is one that checks instead of increases the population.

The Price of Quinine has declined to such an extent that manufacturers have organized a gigantic trust to advance it. One German firm has refused to co-operate, and until it is crushed from existence there will be strife as bitter as the drug. The price will remain low until the refractory firm is disposed of, and then fever and chills will be a luxury.

News of the Week.

Golden Jubilee of the Missouri Medical College.—The Alumni Association of the Missouri Medical College gave a banquet, on March 31st, in commemoration of the Semi-Centennial of their Alma Mater, at the Lindell Hotel, St. Louis.

Tennessee State Medical Society.—The Fifty-eighth Annual Meeting of the Tennessee State Medical Society will be held in the public hall of Watkins Institute, corner of Church and High Streets, Nashville, Tenn., April 14, 15, and 16, 1891.

Iowa State Medical Society.—The Fortieth Annual Session will be held at Waterloo, Ia., Wednesday, Thursday, and Friday, April, 15th, 16th, and 17th.

Dr. William H. Baker, Professor of Gynecology in Harvard School of Medicine, while on a Western trip, recently, was tendered a very pleasant dinner at Cincinnati by Dr. T. A. Reamy, Professor of Clinical Gynecology in the Medical College of Ohio. The prominent men of the profession of Cincinnati were well represented at the feast.

Commencements in Cincinnati have resulted as follows: Medical College of Ohio, 94; Ohio College of Dental Surgery, 75; Cincinnati College of Pharmacy, 29; Miami Medical College, 27; Cincinnati College of Medicine and Surgery, 25; Pulte College, 29; and Woman's College, 2.

The Cincinnati Academy of Medicine elected the following officers: *President*, Dr. Giles S. Mitchell; *Vice-Presidents*, Drs. G. W. Ryan, and T. A. Reamy; *Secretaries*, Drs. J. M. French and E. S. McKee; *Treasurer*, Dr. George E Jones.

The Mississippi Valley Medical Association will hold its Seventeenth Annual Session at St. Louis, Wednesday, Thursday, and Friday, October 14, 15, and 16, 1891.

American Academy of Medicine.—The Sixteenth Annual Meeting of the American Academy of Medicine will be held at Washington, D.C., May 2d and 4th, opening at 3 P.M. May 2d. As it will be just previous to the sessions of the American Medical Association, members will be able to attend both meetings.

A New Medical College in North Carolina.—At a meeting of a number of prominent physicians of North Carolina, held at Durham, in that State, upon March 18th, to consider the question of establishing a medical college in connection with Trinity College, the preliminary arrangements were perfected leading to the organization of a school of high standard, thorough equipment, and three years' course.

Leprosy in British Columbia.—The Canadian Department of Agriculture has lately received word that leprosy in its worst form exists in British Columbia. Six Chinamen affected with the dire disease have been isolated at Victoria. They were discovered in a rookery in the Chinese quarter, where they had been secreted by their countrymen. The department will send a physician to Victoria for the purpose of ascertaining the extent of the disease on the Pacific coast.

An Act to Regulate the Practice of Medicine in the State of Rhode Island and to Provide for a State Board of Medicine, has been introduced into the Assembly. It is somewhat like the New York law, except that the Board of Medicine does not examine, but simply audits and registers the diplomas.

Dr. Charles T. Parkes, Treasurer of Rush Medical College, and one of the leading surgeons of the West, died on March 28th, of pneumonia. Dr. Parkes had made particularly valuable and original contributions to abdominal surgery.

A Successful Case of Removal of a Brain Tumor is reported by Dr. McCall Anderson and Dr. George Buchanan.

German Universities and Medical Women.—In the German Reichstag, on March 11th, Herr Schröder urged, in the course of a discussion in favor of the admission of women to the liberal professions, that it was the duty of the Government to pave the way for women to practise medicine. Dr. Orterer opposed this view. The House declared against the petition.

Hypnotism and the Practice of Medicine.—The Conference of Paris Advocates have recently discussed the following question: Should a person who, not being a member of the medical profession, performs hypnotic experiments on another, be prosecuted for illegal practice of medicine? After full debate the question was decided in the affirmative. This may give rise to some interesting discussions in this country. Will our County Medical Society have authority to stop the performances of professional mesmerizers?

A Large Fee.—Professor Grube, of Charkow, has received a fee of 5,000 roubles (nearly £800), besides travelling expenses, for an operation which he performed on a rich fishmonger of Astrakhan. Dr. Grube was in Astrakhan one day and one night.

A Medical Countess.—The Countess Wanda von Szeawinska has just taken the degree of doctor of medicine in the University of Geneva. The learned lady is said to intend to practise her profession in her native country, Poland.

The Lady and the Sign.—Some unusual incidents in connection with doctors' signs are reported from Chicago by the *North American Practitioner*: "A physician of the feminine gender caused her sign to be stolen lately and then offered a reward of $500 through the daily press for its return. We remember this sign as being worth about $1.74, hence there must be $498.26 of advertising in the affair."

Royal College of Physicians of Edinburgh.—In terms of the bequest made to the Royal College of Physicians of Edinburgh by the late Dr. John Parkin, Fellow of the College, a prize is hereby offered for the best essay "On the Curative Effects of Carbonic Acid Gas, or other Forms of Carbon, in Cholera, the Different Forms of Fever, and other Diseases." The prize is of the value of one hundred pounds sterling, and is open to competitors of all nations. Essays intended for competition, which must be written in the English language, to be received by the Secretary not later than December 31, 1892. Each essay must bear a motto, and be accompanied by a sealed envelope bearing the same motto outside and the author's name inside. The successful candidate must publish, at his own expense, and present a printed copy of it to the College within the space of three months after the adjudication of the prize. In name and by authority of the Council of the College. G. A. Gibson, M.D., *Secretary*. March 9, 1891.

Free Patients Scarce.—Even the dispensaries are beginning to complain of scarcity of patients. The following is a clipping from the *Louisville Courier-Journal*. "The students at some of the medical colleges are complaining about the poor attendance in the free dispensaries and morning clinics, and especially in the dental department of the Hospital College of Medicine. So far there has not been a patient at the dispensary this session. Dr. John Blair, who is in charge of the dental infirmary at the college, said that in other cities there was the greatest demand on the part of the poorer classes for this free treatment. 'The public here,' he said, 'have apparently not the same confidence in our institutions as they have at the North.' There is no reason for this lack of confidence, for the patients who go to an infirmary receive as good treatment as they can in private parlors. We will take as many patients as we can get, and in order to accommodate them we have had the infirmary enlarged and a number of improvements made. We would like to have as much work as we can do.'"

[Why not offer premiums, employ dispensary "feeders," or take to the fence with posters?—Ed.]

"Tr. Opii Pulv."—A medical case in the Chicago courts has recently attracted considerable attention. It appears that some two years ago a physician, in prescribing for an infant three months of age, suffering from otitis wrote, "Tr. opii pulv.," which the druggist interpreted—either rightly or wrongly—laudanum, and filled the prescription accordingly, notwithstanding that the dose called for was toxic, as was proved by the death of the child some few hours thereafter from symptoms of opium-poisoning. The physician afterward recognized and admitted his part of the error, and consented to arbitration touching the question of damages. Three prominent clergymen were therefore selected to whom the matter was referred, but their verdict being unsatisfactory a suit at law resulted. The evidence brought out the fact that the word "Baby" had been written by the physician before the surname of the patient, and it was argued from this that the druggist should have paid more heed to the opium ingredient. Testimony further showed from representative physicians and druggists that technically there was no such thing as "Tr. opii pulv.;" that while it would more readily be interpreted as laudanum, yet the peculiarity of the term should have attracted immediate attention to the original error. The defence was that the physician was not wholly culpable, even admitting that an error in expression had been made; and, furthermore that there was no criminal neglect, and that no financial value could be placed upon the life of the child. A decision was returned of $500 against the physician. A motion has been made for a new trial, and the outcome will be watched with interest.

Society Reports.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Stated Meeting, March 16, 1891.

SAMUEL B. W. McLEOD, M.D., PRESIDENT, IN THE CHAIR.

Treatment of the Various Forms of Pulmonary Consumption with Vaccine Lymph.—DR. J. HILGARD TYNDALE read the paper and presented nine patients illustrating the results of the treatment. It was of great importance to make an exact diagnosis of both the local and the general condition of the patient. An active destructive process, either local or general, was precipitated by the invasion of the tubercle bacillus. We should find out to what extent the lung capacity had been encroached upon, either by infiltration, shrinkage, or excavation, also by the influence of pleuritic adhesions. Also learn whether there was sufficient lung substance left to carry on oxygenation of the blood. The likelihood of immediate or remote invasion by the tubercle bacillus was the most important point. The fat and blood formation, the general nutrition of the patient, next claimed attention. Having a clear picture of the local destructive process and of the general condition before him, the physician could decide intelligently upon a course of treatment. There were four kinds of patients: 1, Those in whom the general condition was good, the local lesion limited and just beginning to be active; 2, those in whom the general condition was below par and the local change not great; 3, those in whom constitutional impairment was grave and local destruction advanced and disposed to be active; 4, those in whom the local lesion was extensive but not active, and the general condition reasonably good. But the maxim was, that each case must be a law unto itself.

The author believed that those who were seeking a remedy by injecting some animal virus or chemical substance of intense toxical effect were on the right track. The substance which he had selected for inoculation was pure vaccine lymph from the cow. It came in capillary tubes, each one containing about two drops of the lymph, while as a solvent he used fifteen drops of pure distilled water and one drop of glycerine. He had made the injections subcutaneously near the seat of the lesion, using an ordinary hypodermic syringe. At the third and fourth injections he had frequently used two tubes. One injection in six or seven days was often enough. When the bacilli disappeared from the sputa, the expectoration scarce and of mucous character, it was not necessary to inject oftener than once in two, three, or four weeks. There was no active reaction. The temperature might rise from 100° F. to 102° F. within twenty-four hours, and sometimes there was frontal headache.

Benefit had shown itself on the fever, the expectoration, the night-sweats, appetite, muscular strength, diarrhœa, cough as a peripheral irritation, and consequently on the loss of sleep, on the feebleness and rapidity of the heart's action, on fluor albus in women; also in changing or clearing up the local signs. In some cases the benefit was apparent almost from the beginning, in others it showed itself gradually. Other measures had not been neglected, but usually had been put off until benefit from the lymph had become manifest. They consisted in tonics, lung gymnastics, and removal of obstructions to respiration in the upper air-passages. Symptomatic treatment should be abandoned except when urgently called for to give temporary relief. He laid stress on the fact that the method was successful in treating connective-tissue processes, equally so in clearing up cheesy infiltrations even though the normal structure could not be restored. As to the tubercle bacillus, he said we could successfully eliminate local tuberculosis, but thus far the line had been drawn at general tuberculosis, especially of the lung. It was the author's belief that more than one animal virus or chemical intoxicant would be found which would accomplish the same object.

The nine patients presented represented different forms or stages of pulmonary consumption. In the first case the young man's father had died of phthisis. The general condition at the time of coming under treatment had been fair, the local change not very great, there being infiltration at both apices to the upper border of the second rib, manifested by diminished vesicular inspiration, tubular respiration at the right apex, broncho-vesicular at the left, which under treatment had entirely disappeared, while the general condition had considerably improved. In the second case, also that of a young man, the local condition was limited while the general condition was exceedingly bad; constant temperature of 100° F. Under the injections the local process had disappeared, the temperature had become normal, the general condition much improved. In the third case the general condition was bad, there was pulmonary infiltration on both sides at the apex, small cavity in the right apex, patient much emaciated, very pale; temperature ranged from 100° F. to 101° F.; the sputa showed a number of bacilli. Under treatment the infiltration had disappeared, where the small cavity had been there was then insufficient vesicular breathing, no dulness, the general condition good. The fourth case, also a young man, temperature at all times ranged from 102° F. to 102.5° F.; muscular strength nil, cavity in the left apex, infiltration in the right apex, emaciation very great. Since the injections had been made he had regained muscular strength, was in good general condition, over both apices there was diminished vesicular breathing, but no râles, no sputa, cough from irritation in the upper air-passages had become better. The next case, in a young man, was one of hemorrhagic tendency. His mother had died of phthisis, aged thirty-six. When he first saw the patient he had had three hemorrhages, one afterward; was in a weak condition; temperature then at 104° F. The cavity together with the infiltration had extended down to the fourth rib. The temperature had become normal under treatment, the general condition good, no cough, but there was still tubular respiration in the right lung, vesicular breathing around, a very slight dry crackle at the edge where adhesions had taken place. The other cases presented, two being women, were equally typical with regard to the local and general condition and the benefit produced.

During the course of the discussion by Drs. Kretzschmar, J. Balke White, Paul Gibier, Truax, and Agramonte, the author stated that he had treated altogether by this method twenty-three cases, and the results in the others were very similar to those in the patients presented; that in the beginning he used the virus by scraping, as in ordinary vaccination against small-pox, and in some of those cases spots formed, but no abscess or spot formed when injections were resorted to; that the bacillus tuberculosis had been present in the sputa of nearly all the patients, that it disappeared in nearly all, or the expectoration ceased. In some the treatment was begun over five months ago. Dr. Agramonte remarked that not one of the nine patients had coughed or expectorated during the half hour they were in the room, yet all had a phthisical appearance. All expressed astonishment at the results described by the author, and hoped they might be confirmed by future experience.

Sterilized Milk.—DR. E. F. BRUSH read the paper. Heat, he said was originally applied to food to make it more digestible. At present there was an additional reason, to avoid real or imaginary danger from germs. The general warfare against all germs now prevailing, leading as it did to the sterilization of food, might prove dangerous. It was true that perfect sterilization applied to food meant the death of bacilli, but whether perfectly dead food exclusively fed to the infant was best, might be questioned. All wild animals had their natural food. Man imagined that babes could be nourished on artificial preparations alone. The statistics, however, showed how

poorly this method succeeded. All the teachings of nature seemed to point to vitality as a prime necessity in food. But contrary to this law, the bacteriologist sought to thoroughly devitalize it The milk consumed by older persons constituted only a part of their food, and might be devitalized by heat without danger to health where vegetables or other food not devitalized constituted a part of the diet. But in the case of the infant, which got nothing else except cow's milk, he believed the uncooked milk from healthy dairy cattle was far better than boiled milk. It was more nourishing, more completely fulfilled the demands of the animal economy. He did not deny the danger of using milk from diseased cows without sterilization, but fresh uncooked milk from healthy cows was necessary when the child had no other food. The dairy cow should not be a breeding animal; she should be spayed.

Dr. Gibier made some remarks on the danger of using unsterilized milk.

THE NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, January 28, 1891.

H. M. Biggs, M.D., President, in the Chair.

Pernicious Anæmia in a Child Two Years of Age (Immense Spleen, Fatty Heart, Slight Cirrhosis of the Liver).—Dr. L. Emmet Holt presented specimens from such a case, accompanied by the following history: The child was twenty-five months of age, and had been under observation at the Babies' Hospital for the last three months of its life. It had previously lived in a malarial district, but without any distinct malarial attacks. It was admitted for a severe ulcerative stomatitis and anæmia. It had had several attacks of bronchitis, and one attack of broncho-pneumonia in infancy.

On admission the child's general condition was poor; the spleen was enlarged, being at that time one and a half inch below the border of the ribs; the liver one and a half inch below the free border of the ribs, and its border normal by percussion. There was no fluid in the abdominal cavity, but the abdomen was large. There was no enlargement of the superficial lymphatic glands. The child improved steadily under treatment for six weeks, and at the end of this time the mouth was almost well, she had gained in weight, and the anæmia was less marked. For the last six weeks the course of the case had been slowly but steadily downward—increasing anæmia, occasional hemorrhages from the nose, and exacerbations in the stomatitis, the latter finally extending until it involved the alveolar spaces and caused the loss of two or three teeth, and finally a sequestrum, three-fourths of an inch long, was removed from the jaw. Two weeks before that the spleen had enlarged so that it reached four inches below the ribs, and its internal border was one and a half inch to the left of the umbilicus, and in the axillary line half an inch above the crest of the ilium. Its inner border was enlarged, so that it reached two inches below the border of the ribs in the mammary line, and two and a half inches in the median line, and presented a smooth outline. There was no jaundice; there was no fluid in the abdominal cavity, and the anæmia at this time was extreme. A loud hæmic murmur was heard at the base of the heart, and small, punctate hemorrhages were present over the abdomen and extremities. Examination of the blood showed a marked increase in the white corpuscles, but not enough to warrant a diagnosis of leucocythemia—the proportion was probably not above one to fifty. The red globules were irregular in size and shape, and no pigment was observed. For the last two weeks a marked febrile movement was present, the temperature ranging from 99° F. to 103° F. Quinine was given in large doses, but had very little effect upon the temperature. The size of the spleen was slightly reduced under the influence of the quinine. There was no jaundice at any time, no emaciation, but diarrhœa was present at short intervals during the whole illness, but it was never continuous. There were no hemorrhages from the intestine at any time, and the urine contained albumin only for the last two days, and no blood was found under the microscope. There were no large hemorrhages, either subcutaneous or from the mucous membranes. During the last four or five days of life signs of broncho-pneumonia developed. There were no cerebral symptoms. There was slight œdema of the feet noticed during the last week only.

At the autopsy, which was made nine hours after death, the brain was negative. The skull was thickened and very vascular, and there was a pachymeningitis interna over the whole convexity, the pseudo-membrane being half a line in thickness. Minute hemorrhages were found scattered pretty thoroughly in this membrane. The sinuses contained soft, dark clots. The lungs were both slightly adherent at their upper portions, and there were evidences of recent broncho-pneumonia in both lungs posteriorly, and of old pneumonia in the right. There was no fluid in the pleural cavity. Sub-pleural ecchymoses were seen everywhere. There were small ecchymoses over the visceral pericardium, but none over the parietal layer. The heart was very pale, and extremely fatty, the striations of fatty degeneration showing typically in the papillary muscles. There were no valvular lesions. The spleen was six inches long, three and a half inches wide, and one and a half inch thick in the thickest part, and weighed five and one-fourth ounces. There were adhesions to the abdominal wall, due to a moderate peri-splenitis; the inner border was notched, the organ firm, and a little darker than normal, and the gross appearance presented nothing positively diagnostic. The liver was about one and a half times the normal size, pale and anæmic; fatty degeneration in the centres of the lobules, and fine grayish striæ at their periphery. The gross appearance was strongly like that of a pig's liver. The organ was not jaundiced. There was no fluid found in the abdominal cavity. The stomach contained a quantity of brownish mucus, and there were a few small ecchymotic spots in the mucous membrane, but evidences visible to the naked eye of acute or chronic gastritis. The upper part of the ileum was moderately congested, but Peyer's patches were not swollen. The colon was normal. The mesenteric glands were slightly enlarged, but not cheesy. The pancreas was normal. The kidneys were slightly enlarged and pale; the markings were only fairly distinct, and there was marked cloudy swelling of their cortices.

Microscopical Examination.—The heart showed well-marked fatty degeneration, and, in addition, there are scattered about between the muscle-fibres small collections of small spheroidal cells. It was not determined whether the cells were contained in a connective-tissue reticulum or not. The liver showed moderate cirrhosis. The connective tissue was especially cellular, and newly formed gall-ducts, as so often occurs in cirrhosis, could be detected. Scattered about, usually between the lobules, were collections of spheroidal cells, presumably hyperplastic lymph nodules of Arnold. The spleen showed a combination of the lesions of congestion with interstitial splenitis. The kidneys showed well-marked parenchymatous degeneration, with proliferation of the endothelium lining the tufts of the glomeruli.

Dr. J. S. Thacher said that he had recently seen at St. Luke's Hospital a case diagnosticated as hypertrophic cirrhosis of the liver, and a perusal of the cases collected by Dr. Howard, in the "Transactions of the Association of American Physicians, for 1887," and of the more recent contribution of Dr. Edwards, in the "Archives of Pediatrics," made it evident that this condition was much more common in children than was generally supposed. There had been a number of such cases reported to the Calcutta Medical Society, in which there was moderate jaundice, little or no ascites, a large, dense liver, and a greatly en-

larged spleen. In one case, in which a post-mortem examination was made, hypertrophic cirrhosis was found, but without the fatty degeneration which is usually a marked feature.

As to the causation of this condition, Italian physicians firmly believed that it was of malarial origin. In the Calcutta cases it was noted that it was not nearly so frequent among children living in the country as in those dwelling in Calcutta.

Dr. Thacher then presented sections from a tumor which had been removed from near the shoulder of a young woman. The tumor was intimately adherent to the upper part of the right clavicle, and the mass which had been sent to him for examination was irregular, and about half the size of the fist. He would like to hear the opinions of the members as to its nature.

Several of those present considered it an adenoma.

Tuberculosis of the Prostate and Seminal Vesicles.—Dr. H. M. Biggs presented a specimen of tuberculosis in which the only lesions in the body were confined to the genital organs. The testicles were tuberculous, and the seminal vesicles extensively involved, while the prostate was converted into a cheesy mass. The bladder was anæmic, apparently as a result of the obstructed circulation due to the prostatic enlargement. The patient, who was a man about sixty years of age, died of acute lobar pneumonia.

The specimen was interesting as a further contribution to the subject of the localization of tuberculous processes, and emphasized what he had said on other occasions about the occurrence of primary tuberculosis in almost any organ of the body. Last November he had presented to the Society a specimen illustrating a tuberculous process limited to the suprarenal capsule, and during the last two years various similar specimens had been presented.

The Society then adjourned.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

THE GULSTONIAN LECTURES ON LEAD POISONING AT THE COLLEGE OF PHYSICIANS—DISCUSSION ON ANGINA PECTORIS AT THE MEDICAL SOCIETY OF LONDON — THE PROGNOSIS OF STRUCTURAL DISEASES OF THE HEART —THE GOVERNMENT PROPOSAL TO ABOLISH FACTORY SURGEONS—THE RECONSTITUTION OF THE UNIVERSITY OF LONDON.

London, March 14, 1891.

The subject of the Gulstonian Lectures delivered at the College of Physicians is "Lead-poisoning in its Acute and Chronic Manifestations," and Dr. Thomas Oliver, of Newcastle on-Tyne, has been the lecturer. Referring to the antiquity of lead-poisoning in his first lecture, Dr. Oliver remarked that Galen condemned the use of lead pipes and the Roman architect Vitruvius forbade the use of lead for conducting water, owing to the *ceruse* which it formed being hurtful to the human body. Nicandre had described lead poisoning. The poison, said the lecturer, was introduced into the system through many channels. Those engaged in lead mining never suffered. The danger began with the smelting of the metal; this was a hazardous occupation, and the fumes were injurious, not only to human beings, but to cattle in the neighborhood. The worst types of plumbism were met with among lead workers. The smelter was the first to suffer, and the next danger arose during the conversion of the metal into white lead or carbonate. No known method of procedure was equal to the old Dutch method; this was simple but dangerous. Drinking-water, fermented liquors, hair dyes, false teeth (the plates of which contained lead), and the contamination or food, were then mentioned as sources of lead-poisoning. Dr. Oliver remarked that the *colique sèche* of the French navy was nothing else than lead-poisoning. His own experience had been gained mostly from workers in lead factories. The months of June, July, and August had supplied the largest number of cases in the north of England. It was difficult, he said, to say the age at which plumbism was most apt to occur; children were not exempt, but adults were most exposed to the influence of lead, and therefore suffered most. There was no doubt in his mind that females were more susceptible to plumbism, and this opinion was shown to be correct by the statistics of epidemics; it was, however, at variance with that given by several authors. Lead as a poison struck early at the functions of blood-making and reproduction, producing sterility, liability to abortion, and amenorrhœa or menorrhagia. Alcohol greatly increased the influence of other factors in determining lead poisoning. Once an individual had suffered from lead-poisoning, he was launched upon a morbid stream of life where, under the influence of metabolism making for health, he might recover; on the other hand, if unwilling to abstain from alcohol, and exposing himself again, he floated rapidly down the stream. A further attack after a period of quiescence, and without fresh exposure, was due to the fact that lead was deposited in the system and, under the influence of some particular food, drink, or medicine, was again rendered soluble and circulated afresh in the system, thus poisoning the person with lead absorbed from his own tissues.

In his second lecture, Dr. Oliver remarked that lead might be taken into the system either in a state of solution, of fine subdivision, or dissolved in some volatilized agent, such as turpentine. The one physical sign above all others which indicated that the system was becoming impregnated with lead, and was suffering, was anæmia, which gradually increased and was spoken of as saturnine cachexia. Hæmatosis was interfered with almost from the first day of exposure to lead, and he had never found in a lead worker the normal number of red blood-cells. There was a marked increase in the number of white cells. The physical sign of plumbism which was most looked for and generally met with was the presence of a blue line on the gums, noticed by Burton, but previously described by Tanequerel. It was a valuable sign, but it might be absent, and it generally was when the teeth and gums were perfectly sound and the mouth was kept cleansed. There were two blue lines. One was a delicate line just at the margin of the gum; this was a deposit of lead on, and not in, the gum, and was easily removed by cleansing the teeth and rinsing the mouth. The other, and more characteristic line, was bluish-black, and occurred also at the margin of the gum, where it was not in complete apposition with the teeth; there the gum was frequently ulcerated and irregular in outline. Dr. Oliver said he had seen a blue line appear the day after a large dose of acetate of lead had been taken; it persisted for a few days and then disappeared. It was difficult to say how long the blue line would remain after removal of the individual from the influence of lead. In some of his cases it had disappeared quickly (eight days was the earliest period), but in the severer forms it remained three. or even six, months. He had never succeeded in developing it when absent by giving iodide of potassium, as some authors were said to have done.

Sudden and severe abdominal pain was an early symptom of plumbism; in one of the lecturer's cases it occurred eight days after exposure. There were two kinds of pain: the paroxysmal or acute pain, which was the true lead-colic, and which was generally relieved by pressure; the other was a dull continuous pain, which followed it in the intervals, and this was usually aggravated by pressure. During attacks of colic the pulse was slowed, arterial tension increased, and the renal function almost completely suspended. An early symptom also was an alteration of the menstrual functions. There was often menorrhagia; others suffered from amenorrhœa. Abortion was frequent. The lecturer then discussed the

various forms of lead-paralysis, from the classical wrist-drop to the generalized paralysis in which muscles of legs, back, shoulders, and arms were affected.

The adjourned discussion on "Angina Pectoris" at the Medical Society was brought to a close on Monday evening last, having occupied the society for three meetings. I gave some account of the first evening's discussion in a previous communication. At the second evening of the discussion. Sir Walter Foster, Professor Grainger Stewart, and Professor McVail were the principal speakers. Sir Walter Foster narrated several illustrative cases, and said that in all of them he believed the immediate cause of the heart pang to be distention of the cavities of the heart—either right or left. He held that stretching and not spasm was meant by the "distensio" of Heberden. In all, or nearly all, of the cases he thought there was a degeneration of the myocardium with distention of the cardiac cavities. This view was counter to that of neurosis, but he knew of no direct evidence to support the idea of spasm of the coronary arteries. He preferred to regard angina, not as a disease, but as a mode of death, and as a term under which might be grouped a number of allied conditions having a common pathological basis. A scientific step has been made in treatment when drugs like nitrite of amyl and nitroglycerine were introduced—drugs which counteracted the vascular condition which was the starting-point of the malady.

Professor Grainger Stewart said that cases of angina pectoris grouped themselves into four categories: (1) Simple neuralgia of the heart, which was very amenable to treatment; (2) a condition of angina dependent upon, and associated with, acute or subacute inflammation of the aorta; (3) where angina was associated with fatty, fibrous, or rather degeneration of the cardiac walls, or with changes in the coronary arteries; (4) angina associated with spasm of the arteries and increased tension, there being but little change in the heart. In any of the three last groups the same lesions might exist without pain, so that we had to ask what was the explanation of the pain when it occurred. Was it of muscular or of nervous origin? Professor Stewart said he looked upon it as a pain of nervous rather than of muscular origin, and he pointed out that epileptiform neuralgia was wonderfully like it, coming on in sudden paroxysms, and often ceasing as suddenly, leaving the patient subject to a new attack, being more common in men, and at or after the middle period of life.

Professor McVail observed that the pain might be general or partial, and he mentioned its varying characters. The two previous speakers, he said, had contended that it was not cramp. Was it possible to separate cramp from a neurotic condition? Though it might be done in laboratory work, it was quite impossible to separate them in practice. He himself was quite unable to separate the nerve condition from the muscular condition of the heart, as regarded pain. An ordinary muscular contraction was a pleasurable sensation, as in exercise; but if the contraction were much increased in intensity, as under strong faradism, it then became painful and was a condition of cramp. For his part he upheld the old idea of Heberden, as supported by Latham, that the condition of angina was immediately dependent upon spasm of the heart.

On Monday evening last the discussion was reopened by Dr. Lauder Brunton, who compared the heart to the bladder to explain the pain produced by over distention. Disturbance of their nervous relationship might cause excessive distention or pain in either organ, apart from organic disease, giving rise to spamodic retention or vasomotor angina. But while the spasmodic character of angina pectoris indicated its nervous origin, it was so frequently associated with diseased coronary arteries and fatty heart, that these evidently played a great part in its causation. Angina pectoris might be said to be due neither to high tension alone nor weak heart alone, but to weakness of the heart in relation to the resistance it had to overcome, and it might be brought on either by weakening the heart or increasing the resistance, or both together.

Dr. Mitchell Bruce contended that an attack of angina was determined not so much by the vaso-motor condition as by the relation of the state of the pulse-tension to the state of the heart behind it. It was really a matter of relation between the pressure ahead and the driving-power, and in the great majority of instances it was the fault of the heart and not of the periphery. He thought the term "gouty heart" expressed best the condition most often present.

Dr. De Havilland Hall observed that Dr. Britton had pointed out that some cases of so called "gout at the stomach" (there was really no such disease) were examples of angina pectoris

Dr. Seymour Taylor said he had found that these cases grouped themselves under three headings: (1) Those where the symptoms were referable mainly to the cardio-vascular system; (2) a neurotic group; (3) cases of reflex origin.

Dr. Douglas Powell, in reply, said two opinions seemed to be current as to the nature of the pain—one that it was due to spasm or distention, and the other that it was of the nature of a neuralgia. To his own mind the theory of spasm or distention presented the most attractive features, and the more he thought over it the more difficult he found it to conceive of the pain as being of neuralgic origin. He admitted the difficulty of the objection that the heart sometimes preserved its equability of action during angina. He was unable to agree with Dr. Broadbent and others as to the rarity of mitral regurgitation in angina.

Professor Gairdner and Dr. James Ross, who were unable to be present at the debate, sent written communications. Professor Gairdner wrote to say that he still maintained the opinion expressed in the article he contributed some years ago to "Reynolds' System of Medicine," viz., that Nothnagel's angina pectoris vasomotorea was not a true clinical description of facts running parallel with Heberden's angina, and that the name was a most misleading one.

Dr. James Ross presented a theory to account for the distribution of the pains in angina and in other visceral diseases. This was to the effect that when a viscus was diseased there was local pain which might be regarded as of splanchnic origin (præcordial pain in the case of the heart). In addition, the irritation was conducted to the portion of the spinal cord from which the viscus derived its splanchnic nerve, and thence spread in the gray matter of the posterior horns, whence by the law of eccentric projection it was referred to the termination of the somatic nerves derived from the segment of the cord—the second and first dorsal in the case of the heart. The irritation might also (in the case of angina) be conducted in other directions, of which Dr. Ross gave examples.

London, March 21, 1891.

Dr. Broadbent is the "Lumleian" Lecturer for the present year at the College of Physicians, and has selected as his subject, "Structural Diseases of the Heart, Considered from the Point of View of Prognosis." Cardiac disease is a branch of medicine which has long been a favorite study with the lecturer, and one on which he is an acknowledged authority. In his Harveian Lectures for 1884 he discussed the subject of "Prognosis in Valvular Disease of the Heart," and the present lectures are virtually a continuation of his course before the Harveian Society. Of the structural alterations of the walls of the heart, observed the lecturer, some were extremely common, such as hypertrophy, dilatation, fatty degeneration; others were rare, such as cancer, syphilitic gumma, abscess, aneurism, localized fibrotic induration. He proposed to discuss only those which were comparatively frequent, and remarked that even as to these we found ourselves on much less secure ground than in dealing

with the valves. We were often left in some degree in the dark even by a post-mortem examination. In one patient, fatty degeneration had apparently proved fatal at so early a stage that the condition was scarcely perceptible to the naked eye; in another, the change had proceeded so far that it was scarcely conceivable how the heart had been able to impress any movement whatever on the blood. So with regard to dilatation, there was no fixed relation between the degree of enlargement of the cavities and thinning of the walls found after death and the interference with the circulation observed during life. While, however, attended with great difficulty, prognosis in structural disease of the heart was of much importance, for the cases were more numerous than those of valvular disease—far more numerous after middle age. Too commonly no attempt was made to recognize the existence and extent of degeneration and dilatation, and, no murmur being detected, the only diagnosis ventured upon was that of "weak heart."

Dr. Broadbent then proceeded to the consideration of cardiac hypertrophy. The prognosis of the condition, like the symptoms, was that of its cause, and the character and degree of hypertrophy were important, not so much in themselves or on account of danger likely to arise out of them, but as indicating the existence of some condition which had given rise to hypertrophy, and which was serious, possibly, in proportion to the hypertrophy which it had provoked. The causes of hypertrophy were then enumerated. If, said the lecturer, the condition were at any time produced by a mode of life entailing sustained muscular exertion, it was physiological and not pathological, and had no claims on our attention unless the initial change had been dilatation caused by violent and sustained effort, such as racing, the hypertrophy being secondary to this, but even then it was the dilatation and not the secondary process which had to be considered. In pathological hypertrophy the question of prognosis resolved itself into whether the compensation which it established was adequate and efficient, and how far it promised to be durable. The danger that the hypertrophy might go beyond what was required need not be considered. Compensation was efficient when there were no symptoms of embarrassment of the circulation, and when the heart responded to all ordinary calls upon it without undue shortness of breath or respiratory distress. The effects of exertion were an important criterion, due allowance being made for the greater liability to breathlessness in some individuals. The sounds of the heart usually gave notice when it was overtaxed by the resistance to the onward movement of the blood. The interval between the first and second sounds might be prolonged so that the sounds became equidistant; the period of repose and reconstitution of the muscular fibres was then shortened, and their nutrition must in time suffer. During systole the blood was squeezed out of the walls of the heart, and it was during the diastolic relaxation that it obtained free access to the cardiac fibres. Another evidence that the heart was yielding to the strain of overwork was reduplication of the first sound due to want of synchronism between the two ventricles. This was at first very slight, the two sounds being separated by the briefest possible interval, and being distinct one from the other only at one spot, just to the inner side of the apex; elsewhere there was only a slurring or prolongation of the first sound. Later, the sounds of the two ventricles were quite distinct, and the duplex first sound was recognizable over a considerable area, usually in the direction of the ensiform cartilage, but sometimes upward. Sometimes the dislocation of the ventricular first sound was so considerable that it was extremely difficult to identify the sounds of the heart at all and say which was first and which was second. The most striking and confusing examples were met with in aortic stenosis, but they occurred also in high tension. When the first sound was broken up in any very considerable degree the prognosis became serious. When cardiac hypertrophy had been brought about by high arterial tension, whether associated with renal disease, or gout, or other cause. There must also be taken into consideration the possibility that the powerful heart might rupture diseased vessels in the brain; if the arteries were conspicuously degenerated it was better that the heart should also undergo some degree of degeneration, and fortunately this usually took place.

Dilatation was then considered. The lecturer said it might be contrasted with hypertrophy rather than compared with it. It was not compensatory, but, for the most part, a confession of failure on the part of the heart muscle. There were, however, two exceptions to this statement; the dilatation attending aortic regurgitation was part of the compensatory arrangement and it was probable that the dilatation of the left ventricle met with in mitral regurgitation might have a similar effect. Violent or protracted exertion might induce temporary dilatation; it was better to speak of "distention" in these cases as special causes of dilatation of the heart (acting, no doubt, on pre-existing tendencies). Dr. Broadbent mentioned injudicious hydropathic treatment, the "Banting" method of reducing obesity, and inhalation of the fumes of Himrod's powder for the relief of asthma. Dilatation of the left ventricle was sometimes accompanied by a systolic apex murmur, obviously due to mitral incompetence induced by imperfect accomplishment of the constriction of the orifice; mitral valvular disease was attended with similar signs, but the presence of the left ventricle first sound in primary dilatation, and its absence in primary valve lesion, would sometimes be of service in the differential diagnosis of the two conditions. Discussing, then, the physical signs which were helpful in prognosis, the lecturer said that though there was nothing in dilatation to affect specially and directly the second sound, yet in proportion as the dilatation of the ventricles impaired the propulsive energy of the systole, so the second sound would be enfeebled, and the aortic second sound was usually weak as compared with the left ventricle first sound. Observation of the intervals between the sounds often supplied very important information. When, with dilatation of the left ventricle, there was resistance in the arterioles and capillaries (which was very commonly the case), the interval between the first and second sounds might be prolonged, and as this marked the duration of the systole it showed that the ventricle was trying to cope with the difficulty and complete its contraction. The systolic pause might be so prolonged as to equal the diastolic, and the sounds thus become equidistant, the first also having become short and sharp. On the other hand, the first and second sounds might be approximated, and as we could not suppose that a dilated and enfeebled ventricle completed its systole in a shorter time than normal, the only possible explanation was that it was quickly brought up short by the resistance in the arterial system, and expelled but a small portion of its contents. This shortening of the systolic pause was therefore a serious indication of failure of the ventricles, and, when carried to an extreme, so that the second sound followed the first immediately, and almost seemed to overtake it, it was significant of extreme danger. In two successive attacks of symptoms due to dilatation of the heart when the degree of dilatation appeared to be exactly the same, a difference in the length of the systolic pause was sometimes the chief, if not the only, point which made a difference in the prognosis. The first and second sounds were spaced in the first attack, which was survived; in the second and fatal attack they were approximated.

In Dr. Oliver's third "Gulstonian" Lecture he drew attention to the channels by which lead might be introduced into the system, viz., by the skin, by the lungs, or by the digestive organs. The experience of the lecturer was that the skin was a very suitable surface for the absorption of lead. In two of his patients, lead was found by Professor Bedson in the perspiration; if lead could be eliminated by the skin it must be capable of entering by

the same channel. There was no doubt as to the entrance of lead by the respiratory organs. When lead entered the body by the digestive organs it was found that the presence of proteid in gastric digestion reduced considerably the amount of lead dissolved. Lead passed into the system from the stomach chiefly as lead chloride, and neither as albuminate or peptonate, both of which were insoluble. Dr. Oliver thought that when lead passed into the system in drinking water contaminated with lead it was generally in the form of bicarbonate.

The relationship of lead to deranged metabolism was then dealt with, and particularly the association of lead and gout. Garrod's observations in regard to the deficient elimination of uric acid in plumbism had been confirmed by numerous observers. The lecturer laid stress upon the fact that gout in lead poisoning was not common in the north of England, though he admitted that gout itself was rarer there than in London. He questioned whether it was a true gout which occurred in lead poisoning and rather supported the view recently put forward by Sir William Roberts, viz., that the gouty diathesis and lead poisoning had a tendency in common to uratosis, or the precipitation of crystalline urates in the tissues or fluids of the body. The amount of urea passed in plumbism was usually deficient.

As to treatment, the lecturer had noticed that opiates, with castor oil, iodide of potassium, and sulphate of magnesia gave satisfactory results in colic; alum was not successful in his cases. Lithia had increased the amount of urine but had had no effect upon paralytic conditions. In the cases of acute lead encephalopathy, nothing gave such satisfactory results as the inhalation of nitrite of amyl and it frequently warded off convulsions. Pilocarpine had been successful where convulsions with complete suppression of urine had occurred.

In the Factories and Workshops bill now before Parliament it is proposed by the Government to abolish certifying factory surgeons.

A strenuous opposition is being organized by graduates to the latest scheme for the reconstitution of the University of London.

A PRACTICAL VIEW OF SEA-SICKNESS.

To the Editor of the Medical Record.

Sir: Being of a peace-loving profession—at least the upper half is—I do not write this in a spirit of war, nor do I quite agree with your editorial on the subject of sea-sickness, at page 15 of the Record for January 3, 1891. As a youngster I lived among and with sailor-men—men-o'-war's-men (my father being in the Navy)—and saw something of blue water, but more in-shore. I was always in or about ships and boats—usually having a sail boat at my disposal. At a rather early age for physical investigation I had a theory on the subject of sea-sickness, which, as time went on, I had no reason to find fault with, although I didn't know what to call it. Of late years I have laid all the blame on the vagus—primarily the eyes. I think the whole thing cerebral, with the stomach—through the vagus—aiding and abetting the misery. Here's my meaning, and I hope I will make myself thoroughly understood.

Take a "shore-going" person and send him aloft—the ship being in port and smooth water. I have known many who, on reaching the "top," had to hang on, or they'd fall overboard. I have tried to entice boys to the "cross-trees" and "jacks," but they said they were dizzy, and were afraid of falling. Later on, when these same boys were accustomed to the altitude, they followed me farther without a qualm—they grew accustomed to the altitude. Several of them complained of feeling sick at the stomach, and didn't get over it until they reached the deck again. One or two of them swayed so it frightened me, and without knowing any reason at that time for it, I shouted at them to shut their eyes, and on no account to open them until I said so. Meantime I lashed them to the shroud or a back-stay—anything firm—until they recovered from the dizziness, and then I "lay down" to the deck with them. This looks as though the unaccustomed height affected them, first through the eye, and the two were made sick by the "sympathetic" action of the vagus.

Similarly: People on board ship—shore-going people, mind you—have the unaccustomed motion of the spars, smoke-stacks, lanterns, etc., before their eyes. Sometimes let one of them stand still, holding onto a stanchion, and shut his eyes. Sometimes, but very rarely, this will stop sea-sickness—it has done it for me twice—"but," as R. Kipling says, "that's another story." Many who try this and fail of relief have still the imagination, and the ship's swaying, and their trying to keep their sea-legs in their mind's eye. Let these same people lie down and shut their eyes, and they're all right. I have, as a boy and youth, been on the water so much that I have tried with my sea sick friends many dodges. The above—supine position—twice I succeeded in heading it off; by making the subject lie on his face and shut eyes, have succeeded in almost every case. Furthermore, boy-like, I have succeeded in making people actually sea-sick on shore, by imitating the motion of the ship with my two hands, the thenar eminences together, and slowly swaying them, and opening and shutting them (like a shark's jaw). In a perfectly smooth sea, once when a boy, I drove two people below in this way, because the rest of us wanted the deck to ourselves. That the "muscular motion" isn't the invariable cause, this: I was at sea on board the Tallapoosa in 1876. One of my friends had a chum on board who had never even smelt salt-water. That boy hadn't any sea-legs in his kit, and charged around the deck like a regiment of cavalry over broken ground. He never lost his bright color, or spirits, and, heavens! what an appetite he had! He couldn't walk without assistance—he nearly fell overboard once. The Tallapoosa was an infernal old tub—she'd roll if you looked at her suddenly. This boy was a wonder. One day the whole of us were in the rigging; Captain (Lieutenant, actually) McRitchie sent some of the watch after us to tie us up, for "foot-money." They didn't catch me and another officer's son, but among others they tied this boy then. He staid "'cause he liked it," until mess-call, paid his little dollar, and "lay down" as pleased as he could be. Since I took my degree in 1882 I have advised people who were going over how to run the least chance of being sick—men and women. For two or three weeks before they sailed, I insisted upon a plain diet, and that the bowels should be thoroughly cleaned out and regulated. Several told me—or rather wrote me—afterward, that those directions enabled them to stay on deck the whole trip—something several of them who had been over before, had not been able to do. Fear has at times something to do with it. Even lying down with the eyes shut, the heavy rolling or pitching in a gale of wind, makes the stomach "feel as though it was coming out through the skin." As soon as the fear passes, by custom, that sensation goes. Later, they can go on deck, but the eyes must be accustomed to the unusual motion of things. When a boy, in 1873, coming north on this same old transport, the Tallapoosa, Senator Morrill was swung in a cot, steadied by guy-ropes, in the hurricane-deck house. I heard him tell my father that "if that confounded lamp wouldn't sway so," he'd be able to keep his interior department subject to some kind of discipline. He said the thing fascinated him so that he couldn't keep his eyes off it. It was "seized down," and the old gentleman was all right by next day. Why you should go to a German for a simple explanation of this common fact, I don't see. You know those animals will reject a simple explanation of anything, and turn loose on something deep and metaphysical—and, in my humble opinion, miss it altogether.

I have written a regular book—which I didn't start out to do, as this could be boiled down to one-third. I didn't write this for publication either, but if you want a subject for an editorial, you can use as much as you

choose of this, and abuse me in the bargain. I am too peaceful to fight. Oh! by the way, talking of "hardened sea-rovers," I know of an officer, and know another personally—he was navigator of a ship my father commanded twenty years ago—nearly, who never went to sea without being sea-sick, and this latter was a fine seaman, too. They were both retired on this account, as young men. The one I knew was nearly broken-hearted over it. He fought the weakness, but he turned out the weaker, and had to "give it up."

Very sincerely yours,

BERKELEY MACAULEY,
Captain Medical Department, U. S. A.

FORT LEWIS, COL., March 4, 1891.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from March 22, 1891, to March 28, 1891.

TILTON, HENRY R., Major and Surgeon. Granted leave of absence for one month, on surgeon's certificate of disability. S. O. 56, par. 5, Headquarters Division of the Atlantic, March 21, 1891.

BARTHOLF, JOHN H., Major and Surgeon, now on duty at Plattsburg Barracks, N. Y. By direction of the Acting Secretary of War, will proceed to Fort Wayne, Mich., and report in person to the commanding officer of that post for temporary duty. S. O. 64, par. 7, A. G. O., Washington, D. C., March 21, 1891.

GIBSON, ROBERT J., Captain and Assistant Surgeon. By direction of the Acting Secretary of War, the leave of absence granted in Special Orders No. 232, A. G. O., October 3, 1890, from this office, is extended one month. S. O. 65, par. 10, A. G. O., Washington, D. C., March 23, 1891.

JOHNSON, HENRY, Captain and Medical Storekeeper. By direction of the Acting Secretary of War, his retirement from active service this date, by operation of law, under the provisions of the Act of Congress approved June 30, 1882, is announced. S. O. 66, par. 5, Headquarters of the Army, A. G. O., Washington, D. C., March 24, 1891.

SWIFT, EUGENE L., First Lieutenant and Assistant Surgeon, now on duty at Fort Thomas, Ariz. By direction of the Acting Secretary of War, will report by letter to the commanding officer at Fort Grant, Ariz., for duty at that station, or at Fort Thomas, Ariz., as the commanding officer may direct. S. O. 66, par. 7, A. G. O., Washington, D. C., March 24, 1891.

GREENLEAF, CHARLES R., Lieutenant-Colonel and Assistant Medical Purveyor. By direction of the Acting Secretary of War, will proceed to New York City on public business, and thence to Boston, Mass., to represent the Army Medical Department at the American Association for Physical Education, and upon the completion of the duties contemplated will return to his station in this city. S. O. 67, par. 3, A. G. O., Washington, D. C., March 25, 1891.

Official List of Changes in the Medical Corps of the United States Navy for the week ending March 28, 1891.

AMES, HOWARD E., Passed Assistant Surgeon. Promoted to Surgeon, March 19, 1891.

WHITE, STEPHEN S., Passed Assistant Surgeon. Ordered to the Baltimore.

PICKERELL, GEORGE MCC., Assistant Surgeon. Promoted to Passed Assistant Surgeon, March, 25, 1891.

MARTIN, WILLIAM, Surgeon. Ordered to Naval Rendezvous, San Francisco, Cal.

WHITE, C. H., Medical Inspector. Appointed Fleet Surgeon, Pacific Station.

HARRIS, H. N. T., Assistant Surgeon. Ordered to the Receiving Ship St. Louis.

PICKERELL, GEORGE MCC., Passed Assistant Surgeon. Ordered to Naval Hospital, New York.

RUSH, C. W., Passed Assistant Surgeon. Ordered for duty with Inter-Continental Railway Commission.

OGDEN, F. N., Assistant Surgeon. Ordered for duty with the Inter-Continental Railway Commission.

NORTH, JAMES H., JR., Assistant Surgeon. Ordered to the Navy Yard, New York.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending March 28, 1891.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	11	3
Scarlet fever	177	28
Cerebro-spinal meningitis	4	7
Measles	314	12
Diphtheria	82	16
Small-pox	0	0
Varicella	8	0
Pertussis	0	11
Croup	0	0
Mumps	0	0
Rötheln	0	0

Commitment of Insane.—The commonwealth of Illinois, and those also of Colorado and Idaho in quite the same measure, stands in a unique position among her sister States of the Republic with regard to the statute governing the commitment of persons alleged to be insane. Virtually, the person supposed to be insane is a criminal in the eyes of the law, and is legally dealt with as such. He is, upon complaint, brought before the open court at the county seat, tried before a jury of six, one of whom may be a medical man, and convicted and sentenced, or acquitted, according to the return of the jury. There is no discretionary power reposing with the judge as to the summoning of a medical commission. Again the law is unique, and highly absurd as well, in that, should the insane person be endowed with property, or some time after his incarceration become possessed of property by inheritance, it becomes necessary, in order that a conservator be duly appointed, for such insane person to be again publicly brought before a tribune, this time the probate judge, and the question of his sanity once more debated. And from this dual procedure verdicts have arisen directly opposed to each other. Then, again, the law makes but little, if any, provision for the release of a patient regaining a sane condition after commitment. The most serious evil, however, and the one it is desired to mitigate by legislative enactment so soon as it can be done, is to place a discretionary power in the hands of the judiciary, as between the open jury system and the calling of a qualified medical commission to examine, without publicity, into the mental condition of particular and given cases. At a joint meeting of the Chicago Medical Society and the Chicago Medico-Legal Society at the Grand Pacific Hotel, on February 16th, the entire session was devoted to a consideration and discussion of this question. Dr. Harold N. Moyer opened the subject by presenting a paper entitled, "Past and Present Laws Regarding the Legal Restraint and Detention

of the Insane for the Purpose of Care and Treatment." Following this, Dr. Sanger Brown read a paper on, "Proposed Changes in the Present Law Regarding the Legal Restraint and Detention of the Insane, for the Purpose of Care and Treatment, in the State of Illinois." And very much along the same line was a contribution from Dr. James G. Kiernan, headed, "Newspaper Reforms in Insane Asylums." Drs. D. R. Brower, Archibald Church, and others, took up the discussion, which plainly indicated the present feeling of the profession, and the absurdity—not to say absolute cruelty—which is imposed by the present statute. Dr. Sanger Brown, late of the Bloomingdale Retreat, presented a series of acts and provisions based upon the laws of New York, Massachusetts, and Wisconsin. Dr. D. R. Brower acknowledged the marked shortcomings of the present requirements; recognized fully the disadvantage of a public trial to the insane, and the lack of the protection it was believed to afford to the sane community. He had only lately found sane individuals under forced asylum restraint. Dr. Archibald Church reviewed thrillingly the cruelties of the present form, and cited a number of deaths resulting from the forcible conveyance, and appearance before the open county court, of insane persons. And to illustrate the danger of the rapid consideration of these cases in the open court of a large jurisdiction, as in the County of Cook, he mentioned the disposal of no less than fifteen cases of alleged insanity, in Chicago, between the hours of 10 and 11.30 A.M., being an average of six minutes for each case. It appears that at the last meeting of the Illinois State Medical Society this same question of the incarceration of the insane was discussed, which resulted in the appointment of a committee to look into and report upon new legislative amendatory possibilities; and this fact, coupled with the unity of conviction manifested at this joint meeting of these two city societies, caused the passage of resolutions, and the creation of a committee which is to act in conjunction with the one from the State body, and with the same end in view. Apropos to this subject, it may be mentioned that there is a very interesting bit of history connected with the original framing of this peculiar law covering the commitment of the insane in this State; and the same peculiar features have extended down since 1874—the period of its first enactment—in relation to whatever endeavors have been made to amend or alter. A woman—evidently a striking specimen of paranoia—with a most determined singleness of purpose, has stood, and still poses, as the one obstacle to the efforts of the profession. She wields an extensive influence at the State Capitol, and is so determined that the jury system shall abide inviolate, that only the most strenuous and pains-taking labors will bring about a repeal of the law as it is now written.

A Mohammedan Female Physician.—Dr. Razie Koutlairoff-Hanum, a young Mohammedan woman, who was born in the Crimea, recently passed a creditable examination as physician and surgeon at Odessa, and now enjoys the distinction of being the first woman of her creed to engage in the practice of medicine as understood by Western nations.

A Case of Fatal Rupture of Spleen.—Dr. Darwin records the following case: "A Sepoy, aged twenty-one, apparently healthy, fell in attempting to mount a bare-backed pony; he got up and walked about one hundred and fifty yards, when he 'felt queer,' and sat down, vomited twice, felt exhausted, and looked pale. He was quite collapsed when the doctor arrived; pulseless, and with sunken eyes. He referred to the left side of the abdomen as the seat of his pain, and died within two or three minutes. The body was opened half an hour after death, when a large quantity of blood was found in the peritoneal cavity. The spleen was carefully removed, and, on examination, was found to present two distinct points of rupture, the one below, the other on the upper and posterior surface at the upper curved portion. They were about an inch apart, the lower, which was the larger, being about an inch and a half long and half an inch deep. The spleen seemed to be about twice the size of a healthy one; the borders were rounded and the substance firm, but a small area around each rupture was soft and friable. The liver was somewhat enlarged; the other viscera were healthy." Dr. Darwin comments on the fact that the spleen was only moderately enlarged, while the injury was comparatively slight.—*Indian Medical Journal.*

Hæmolymph Glands.—It might be thought that after the careful search that has been made in all the tissues of the animal body it would be almost impossible to find a structure that has up to the present remained undescribed; yet Mr. W. F. Robertson, working under Dr. William Russell, in giving a careful histological description of his so-called hæmolymph glands, has opened up a new field for histological and pathological research. From the description given, the hæmolymph glands appear to be a kind of cross between the spleen and the lymphatic glands, as almost all the structures that Mr. Robertson describes may be found in one or other of these organs, although they have never yet been figured as he finds them arranged. Most observers who have noted the existence of the small prevertebral blood red points have assumed that they were simply lymphatic glands, the cortical spaces of which were distended with blood, and, although every butcher can point them out, it appears that no one has hitherto had sufficient curiosity to determine him to examine these structures microscopically. The large cells, with their colorless subdivided nuclei found in the sinuses, appear to be somewhat similar in character to the large red blood-corpuscle-forming cells that have been described in the spleen, and even free in the blood circulation, and it will be interesting to note whether it is possible to make out any relation between the cells in the blood and those in the hæmolymph glands. Although at first sight it might appear that Mr. Robertson's observations may lead to further complications in the study of the blood-forming and blood-destroying functions, we may hope that a careful study of the structures that he has so well described may allow of further light being thrown on these subjects. We are gradually drifting further and further away from the idea that special functions are necessarily bound up in special organs. That there is a special development in certain kinds of tissue in special organs, and consequently that certain functions are here carried on more actively, all will admit; but we are gradually coming to see that such functions as the glycogenic, hæmogenic, and the zymogenic are carried on in every part of the body, and that the various differences as regards these functions in the various tissues are those of degree rather than those of kind.—*The Lancet.*

An Eye to Business.—A certain doctor, who was noted for a keen eye to business, was driving along the street of a country town, when his horse took fright and ran away. He was thrown violently out of his trap and rendered senseless. Presently he recovered a little from his unconsciousness, and, noticing the crowd which had gathered about him, asked, "What's the matter, gentlemen? Anybody hurt? I am Dr. B——. Can I be of any service?"

Dr. Alvan Talcott, of Guilford, Conn., died recently at the age of eighty-seven. He graduated at Yale in 1824, and from the Yale Medical Department in 1831. He was one of the best of modern Greek scholars, and continued his studies to within a few weeks of his death. He was wealthy, and gave Yale College $25,000 to endow a Greek professorship. He was the author of a notable genealogical work, which gives the genealogy of the forty original settlers of Guilford. The work is in an imperial quarto, and contains twenty-five thousand individual names. He survived his wife and three children.

Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 39, No. 15.
Whole No. 1066.

NEW YORK, APRIL 11, 1891.

$5.00 Per Annum.
Single Copies, 10c.

Original Articles.

THE FREQUENT LOCALIZATION OF CIRCUMSCRIBED PLEURITIS BENEATH THE SCAPULÆ.

BY STANLEY S. CORNELL, M.D.,

ATHENS, ONTARIO, CANADA.

BEING the recipient of only the limited information that can be derived from a small library, I experience delicacy in producing my notes upon a number of cases representative of a peculiar manifestation of pleuritis which I regard as usual, but unnoticed, lest I repeat what some other physician has already placed before the profession. The remarks relative to the description of the following cases are such as individually illustrate a localization of circumscribed pleuritis that may be very frequently observed. Although but several short histories are given, they do not constitute the number that might occupy this paper. Some patients, whose histories fully sustain the characteristics of those whose notes I have taken, but in whom a lessened comparative volume and pitch of sound induced uncertainty of diagnosis, have not returned for re-examination; and the conclusions in these cases not having been confirmed, I prefer that they should be given no place in this report.

At various times since taking my notes of Case No. 1 patients have applied to me for the relief of wandering chest-pains, of "general debility," of "disordered stomach," and of cough, when a physical examination of the thorax would demonstrate the presence of pleuritic friction-murmurs beneath the scapulæ.

That simple myalgic or neuralgic pains should be accompanied by cough in one patient, disordered functions of the stomach in another, and general systemic weakness without evident anæmia in still another, presented causes and effects that were elucidated only by physical exploration of the chest in all its regions.

It may be said that I have recorded too few cases, and that conclusions as to the relative frequency of circumscribed pleuritis beneath the scapulæ can be arrived at only by a review of a vast number of such examples of the affection as we have under consideration. To this objection and affirmation I can reply by asserting that the number appears large, inasmuch as it has been collected from the few patients that usually visit the country practitioner's office for consultation; and that many other examples—though less pronounced in physical signs—have been before me.

The examination of the chest for the detection of these cases must be made with care, for there are many sources of error. The usual method of placing the patient in the position with the body slightly inclined forward and the finger-tips of each hand resting upon the skin overlying the upper margin of the opposite scapulæ is erroneous in the examination of the scapular regions. Frequently during the respiratory acts the palmar surfaces of the fingers, slipping over the dorsal skin, will produce a friction sound that closely resembles the pleuritic murmur. Therefore the appropriate position of the body for this examination is slight forward inclination of the thorax with the hands resting upon the thighs.

It will be difficult to locate the pleural sounds should the scapulæ be approximated too near the median line of the body in front. Another source of error may be found in the presence of a cluster of moist râles in the scapular region. I have known these to so closely simulate a pleuritic friction-sound as to render me certain in the diagnosis until successive acts of coughing by the patient had cleared the air-passages, when no evidence of pleuritic disease could be observed.

Error may also arise from the communicated sounds of articular movement in the adjacent shoulder-joint; this can be distinguished by its low pitch, greater extent, and rumbling character, better by its absence.

It is to be noted that the majority of these cases give a history of tuberculosis. I regret not having inquired into a history of rheumatism, either personal or hereditary.

CASE I. (October 28, 1890).—The patient whose history is about to be detailed has been under my observation for the past three months.

Mrs. H. J—— , aged forty-four; farmer's wife. The patient menstruates regularly every twenty-eighth day. Family history: The patient's mother died of "consumption," the age not being given. One sister died of "lung-consumption," the age not being given. One sister, aged forty, lives, and is the subject of pulmonary emphysema.

In June, 1889, the patient's left breast was removed for the eradication of a suspected (?) malignant growth. The growth possessed almost imperceptible characters, the breasts being symmetrical in outline, and palpation imparting the recognition of a slightly condensed state of the mammary tissue within a limited area at the upper and outer margin of the left mammary gland. The axillary glands were free from involvement, although the breast during a period of six months had been extremely painful. The following October, one year ago the present month, a fatty tumor, the size of a walnut, was removed from the outer extremity of the breast wound. During the time intervening between the two operations, neuralgic pains constantly emanated from the whole line of cicatrix left as the result of the healing of a septic wound.

The cicatricial tissue is adherent to the pectoralis major muscle in its entire course, and has induced a relative contraction of the adjoining skin. The left arm can be raised to the level of the left shoulder, but no higher, and can be made to come within four inches of the chest anteriorly, but no nearer. Within these limitations the movements are made with vigor. At this point of the examination inquiry, made to determine the existence of degeneration of the nerve fibres in the tissues included within the cicatrix and a consequent paralysis involving certain arm muscles, was met by negative results. Pressure by the finger along the scar yielded no tenderness, and, although pain passes over its whole course and thence to the left scapular region, there is no redness but that which would ordinarily exist in cicatricial tissue; no numbness, no tingling, nor loss of sensation in the parts immediate to, or remote from, the site of the cicatrix.

The pain, whose duration has been noticed, is variable in character. Sometimes it is felt as a sharp stitch, piercing the tissues with extreme severity; at others it is a steady ache.

Not convinced that the source of the pain should be referred to the cicatrix, I resorted to physical examination of the chest. Inspection: The only sign available under inspection was diminished expansion of the chest in the left infra-clavicular region. Percussion: Dulness

existed in the supra-scapular region, flatness in the scapular region above and below the spinous ridge. Auscultation: A harsh, grating, creaking, crumpling sound was heard in the scapular region, above and below the spinous ridge, with higher pitch; in the supra scapular region with lower pitch. The murmur is audible, with equal intensity in inspiration and expiration.

The respiratory murmur at the left apex was lessened in volume and pitch. During the period of my observation of this case all the evidences of persistence have been noted. There has been no cough, but the temperature has always registered 100° F. or 101° F.; while the pulse has been continually small, compressible, and rapid and the number of respirations abnormally increased. Besides the symptoms indicative of pleuritic disease there have existed those denoting functional derangement elsewhere. The tongue has constantly presented a white coating, the appetite been impaired, and the body-plumpness greatly disappeared.

Treatment.—This has been constitutional and local. To meet the general indications the mineral acids, with quinia, strychnia, and calumba, have been administered, and an attempt to combat the local condition has been made by the application of flying blisters of mustard to the scapular region, by the use of the ointment of the red iodide of mercury, of iodoform, and the tincture of iodine. Under these measures of treatment no improvement has been apparent up to the present writing. In addition to the remedies named the internal administration of the chloride of barium in solution was prescribed with no benefit. The patient having become anæmic, Bland's ferruginous pills were administered, although the temperature and condition of the tongue contra indicated the use of iron, with no benefit generally or locally. The prognosis probably points to final fibrosis and tuberculariza tion of the left lung.

Case II. (October 15, 1890).—M. B——, aged eighteen; farmer's daughter; single. Past diseases: Measles, scarlatina, and chicken-pox, from which good recoveries resulted. Family history: The point of importance in this portion of the patient's history centres upon the death of a maternal aunt from "consumption" of two years' duration.

All functions except those to be described are regularly carried on. The symptoms prompting consultation are those of a very mild subacute gastritis, pain in the stomach after the ingestion of food, pain upon pressure over the epigastrium, distention of the bowels and stomach with gases, coated tongue, headache, and dizziness. The temperature is normal, the pulse is small and feeble, but not unduly rapid, and the respirations are natural in length and number.

In addition to the foregoing symptoms pains, slight but troublesome, have been experienced in the left scapular region and in the interscapular region. The stethoscope reveals the presence of a friction murmur of variable pitch in the left scapular region below the central portion of the spinous ridge. During superficial respiration it is slight; in deep inspiration it becomes louder and is prolonged with but short interruption until the end of expiration.

Case III. (December 8, 1890).—S. J——, aged twenty-one; farmer. Past history: Measles, from which good recovery resulted. Family history: The family history includes long lives upon the maternal and paternal sides until it bears relation with the death of the father at the age of fifty four. I have it upon the authority of a very reputable physician that the parent died of cardiac failure, the result of depression induced by a sudden pleuritic effusion into the left sac.

Before considering the pleuritic affection to which this patient is subject, it may be well to announce that the physical signs of the precordial region yield proof of cardiac hypertrophy and dilatation. No history of pericarditis can be elicited, and valvular disease is not evident; we have only the story of heavy farm-work, and the probably resultant cardiac hypertrophy with secondary dilatation.

The symptom for which this patient seeks relief is pain situated one-half inch below the left nipple. This pain is constant in situation and intensity, and with it is associated shortness of breath. The "shortness of breath" is peculiar; neither inspiration nor expiration is diminished in length, nor is either hurried. Perhaps a suffocative sense overcomes the patient because of pressure of the enlarged heart upon the lung tissue. The physical signs are these: a friction murmur, audible during some, inaudible during other, inspirations and expirations, seated within a small area in the left scapular region below the spine, of high pitch but moderate intensity, with diminished lung expansion below the left clavicle.

Case IV. (December 26, 1890).—Mrs. W. K——, aged fifty two. Family history indefinite, unless the history of a prolonged illness occurring in a maternal aunt, in latest stages accompanied by œdema of the lower extremities, and ending in death, is *possibly* that of phthisis. Present condition: Pulmonary emphysema from right and left apices to a line drawn through both nipples transversely, and posteriorly on the right side beneath the scapular region; right lateral dorsal curvature of the spine; lowered apex beat with weakened first sound. Beneath the left scapula, above and below the spine, a low-pitched, grating murmur is heard during inspiration, varying in intensity during successive respiratory acts; flatness upon percussion exists, while, differentially, a tympanitic note is present in the right scapular region. The temperature is subnormal (97.5° F.), and there are present the physical signs of a general bronchitis.

Case V. (January 12, 1891).—Mrs. P. W——, aged forty-four; married; housewife. The patient is the mother of two children, whose births were not attended by complications immediate or remote. Family history: The patient's mother died of pulmonary tuberculosis at the age of fifty-one.

Physical examination: Circumscribed pleuritis in the left scapular region above and below the spinous ridge, emitting a harsh, creaking murmur, audible in inspiration, is detected by deep respirations; while emphysema at the left apex is shown by undue prominence of the thoracic wall in the infra-clavicular region, by a vesiculo-tympanitic percussion note, and by a high-pitched, prolonged, expiratory murmur. This murmur has been analyzed sufficiently to prove it non bronchial.

The patient is anæmic, and experiences, at times, dimness of vision and cardiac palpitation, while leucorrhœa, pain in the left iliac fossa, and weakness in the "small" of her back are her constant accompaniments. Through unthoughtfulness, I neglected the use of the thermometer, and further examination was denied me on the ground of delicacy.

Case VI. (November 25, 1890, 3.30 P M).—Mrs. M. McL——, aged twenty two; a medium-sized, well formed woman, with light skin and blue eyes; married; farmer's wife. Family history: Father lives, aged forty-seven, in good health. Mother lives, aged thirty-nine, in good health. One maternal aunt died of "consumption at the middle age."

The circumstances surrounding this patient have appeared to bear a causative relation to her present illness. Her father lay in bed a week before, attacked by severe lumbo-abdominal neuralgia, an affection exhibiting paroxysmal characters, and apparently contracted while recently ploughing a field. His temperature pursued such variations as at one morning examination to be 98.5° F.; at another 102° F.; at another 99° F.; at another 101° F., and I assumed that malarial infection had originated the febrile condition and neuralgic distress. Finally, three grains of quinine, given every second hour, for one week, removed all pain, and permanently reduced the temperature to 98 5° F.

The patient informs me that she feels much distressed by severe, continuous pain in her right shoulder, pos-

teriorly; that she is conscious of being feverish, and experiences thirst; that she has no desire for food, and her bowels are costive. Her tongue is coated with a white fur, evenly distributed over its dorsum. Her cheeks are flushed and her face slightly shrunken. Temperature, 101° F.; pulse, 100, small and weak.

From these symptoms I conjectured the presence of malarial fever with its chief expressions confined to the temperature, and the nerves in near relation to the muscles of the right scapula or underlying intercostal muscles. Physical examination of the chest negative.

Treatment.—The administration of five grains of sulphate of quinia four times a day was begun and persevered in for one week Two weeks later the pain had disappeared, the temperature was normal, and the appetite in a measure returned. Physical signs of the chest at the end of two weeks negative of disease.

January 20, 1891.—The patient has returned, feeling the scapular pain and coughing. Her temperature is normal, and pulse slow and full. The other symptoms are as before related.

Physical examination of the chest: A scratching sound pervades the scapular region of the right side above the spinous ridge, and is audible with greater length in inspiration; less audible during the expiratory act, and shorter.

Case VII. (February 6, 1891).—C. T——, aged forty-seven; farmer. Past history: The patient has been under constant treatment for twenty years, his physician having denominated his affections bronchitis and dyspepsia. Although these diseases are still present he experiences very little debility.

Family history: Father died at the age of seventy, of an unknown disease. Mother died at the age of forty years, from "consumption of the lungs." The only symptoms of which the patient gives an account are occasional cough, "weakness overspreading the whole body," and "pains in the chest." The pains are sharp, shooting from scapula to scapula, and passing down the arms; or resolve themselves into dull aching about the thorax, arms, and legs.

Physical examination of the chest: Pulmona y emphysema involves the infra-clavicular and mammary regions; beneath the right and left scapulæ scraping, tearing murmurs manifest themselves above and below the spinous ridges during inspiration and expiration.

SENSORY DERANGEMENTS FOLLOWING INTRA-CEREBRAL INJURIES[1]

By A. L. HALL, M.D.,

FAIR HAVEN, N. Y.

Gentlemen: It is only within a comparatively short period that the attention of the profession has been directed to the many and varied forms of sensory disturbances that are the resultants of trauma. Particularly true is this of the condition known as hemianæsthesia, which until lately was believed to belong exclusively to the symptomatology of hysteria. In the early part of the last decade so little was known of this symptom as a concomitant of injuries of the central nervous system, that such writers as Erichson, in his work on "Concussion of the Spine," does not mention it, and Page, in the last edition of his work on "Injuries to the Spinal Cord," merely alludes to a single case of injury, occurring in the practice of another physician, in which this symptom was present.

Owing to the vast amount of experimental and clinical research which has been conducted within the past few years, our present knowledge of hemianæsthesia, its production and correlation with the motor and special sensory disturbances which may coexist, has been to a considerable extent unfolded, and our knowledge of cerebral localization correspondingly increased.

[1] Read before the Cayuga County Medical Society at its regular annual meeting, held June 26, 1890, at Auburn, N. Y.

These investigations have determined that the sensory regions of the cerebrum are chiefly confined to the temporo-sphenoidal and occipital lobes, and that the posterior fibres of the crus cerebri are primarily involved in the transmission of sensory impressions from the peripheral portions of the body to the cortical areas of the sensory tract. The posterior third of the internal capsule, which lies between the extremities of the optic thalamus and the lenticular nucleus, is regarded as the sensory pathway, lesions of which induce hemianæsthesia of the opposite side of the body, with some interference of the other sensory functions, chief among which is crossed amblyopia with gustatory, olfactory, and auditory anæsthesia. In well-marked cases of hemianæsthesia the common sense of tactile impressions is diminished or abolished to the median line, including the lips and tongue. There is more or less abolition of the sense of pain and heat, which varies in different subjects. If the anterior two-thirds of the internal capsule is involved in the lesion, motor paralysis will be superadded to the existing anæsthesiæ.

In the posterior part of the internal capsule, in contiguity to the sensory pathway, lie the optic tracts; their proximity accounting for the frequent occurrence of crossed amblyopia in connection with one-sided anæsthesia. This condition of amblyopia is characterized by a concentric reduction of the field of vision and a moderately dilated state of the pupil. The frequency of crossed amblyopia, compared to that of hemianopsia, is much greater, the latter being a rarity, while the former is a quite common accompaniment of disturbed sensation. Hemianopsia most frequently results from the pressure of intra-cranial tumors, while amblyopia is generally due to direct lesions of the cerebrum and its basal ganglia. Pressure, destroying the conducting power of both the decussating and longitudinal fibres of the optic nerve, induces amaurosis, while in crossed amblyopia the decussating fibres lying in the region of the internal capsule are alone interfered with.

Generally speaking, all forms of anæsthesia are confined to that side of the body opposite to the cerebral lesion. In visual anæsthesia only one eye is commonly involved, and when the result of traumatism affecting the cerebral mass, it is almost invariably the sequence of optic neuritis. While vision in this variety of defect is much impaired, it is seldom completely abolished, and not infrequently it happens that, when sight is nearly extinct, some temporary improvement is seen to follow.

Auditory anæsthesia is usually confined to one ear, and may exist without the cognizance of the person affected. Exceptionally, this condition may be preceded by acoustic hyperæsthesia. This last named state is indicative of overtension of the auditory apparatus, or an irritation of the acoustic centre, while anæsthesia depends rather upon destructive lesions. Hence, anæsthesia is of a permanent character, while hyperæsthesia is of a more transitory nature.

Anosmia, or impairment of the sense of smell, results oftener as the sequence of intra-cranial growths than as a consequence of cerebral traumatism. It occurs in acute and chronic nasal catarrh from an alteration of the mucous membrane, and in paralysis of the fifth and seventh nerves. It is also of frequent occurrence in hysteria and in some kinds of insanity. It may affect one or both sides of the nasal cavity. When anosmia is complete, or nearly so, taste is impaired. Hyperæsthesia of the sense of smell is termed "hyperosmia," and is often present, as a temporary excitation, in many of the ordinary diseased states. Injury or neoplasms affecting the frontal lobes may induce this symptom.

Perversions of the sense of taste are known as gustatory hyperæsthesia, or hypergeusia, and gustatory anæsthesia, or ageusia. Hypergeusia is one of the many expressions of an abnormal state of the nervous system, and is the remote effect rather than the immediate result of disease or injury. When resulting from intra cranial

irritation, it is principally confined to one side of the tongue. Ageusia depends somewhat for its location upon the nervous distribution in the tongue, and consists in the partial or complete loss of the sense of taste in a part or the whole of this organ. It is observed after paralytic affections of the trigeminus and glosso-pharyngeal nerves, and in intra cerebral growths and injuries. This anæsthetic condition is usually associated with a similar state of the various sensory functions, the detection of one indicating the presence of the others. Especially true is this when hemianæsthesia exists.

The imperfect decussation of the pyramidal fibres of the sensory pathway has been inferred from the discovery of a similar condition in the fibres of the motor tract. This inference has to some extent been sustained by clinical observation, which, in some exceptionally rare cases, has revealed the existence of sensory disturbances upon the same side as the cerebral lesion. It would be a very narrow conclusion to assign to the sensory tracts a strict uniformity of location in the cerebral cortex, or to give to their converging fibres an exact definiteness as regards their limit and regularity of decussation. The most eminent students of cerebral localization never entertained such narrow views concerning the motor areas, but, on the contrary, believed that they existed as a complex system throughout the brain. If such views regarding the motor functions have been found tenable, why, in the light of our increased knowledge concerning the various sensory derangements, is not the conclusion justifiable, that the same law holds true in the distribution and arrangement of the sensory areas? While such a theory is not proven, it doubtless only awaits the progress of future developments to establish its truthfulness.

The study of the motor changes arising from brain traumatism has always kept far in advance of that of sensory disturbances. This, without doubt, is largely due to the more easy recognition of motor over sensory paralysis, as well as to the want of care and method in the conduct of the examination, and the failure to employ suitable diagnostic tests. With the use of the improved methods and aids at our command, the detection of the several forms of sensory anæsthesia is as easy and unfailing as the recognition of the different forms of motor paralysis. Furthermore, it is a well attested clinical fact, that an anæsthesia, or a hyperæsthesia, may be detected with as much certainty as a paresis. The coexistence of motor and sensory derangements is so frequent an occurrence that, too often, the failure to detect the former condition terminates the examination without any tests having been made for altered states of the special senses. Such examinations are a reproach to medical science, and are practised only by the uninformed or the indifferent.

Associated with cutaneous anæsthesia, there frequently exists hyperæsthesia of the most intense character. In such cases, the hyperæsthetic disturbances are usually present as a band, or zone, which may encircle the whole body or only affect a small portion. The cutaneous distribution of the brachial and sacral plexuses of nerves is the most frequent situation of exaggerated sensibility. The existence of localized hyperæsthesia upon the same side with hemianæsthesia of a central origin, is probably due to an associated excitation of the spinal centres for the hyperæsthetic nerves acting in conjunction with the cerebral disturbance. Hyperæsthesia accompanying opposite hemianæsthesia may be spinal or central in its origin. When the increased sensibility exists over a large area its central origin is probable. Hyperæsthesia of the spine is an almost invariable accompaniment of either form of altered sensation.

The physical changes which follow upon lesions of the sensory areas of the brain have received little attention from writers upon cerebral traumatism, consequently what is herein offered is based in part upon a few clinical observations, and largely upon the analogy between the psychical disturbances known to arise from lesions of the motor tracts, and those that are supposed to follow damage to the sensory regions. Patients in whom the cerebral lesions are moderately extensive, present an anxious and careworn expression. There is headache, hebetude of mind, loss of memory, inability for mental application, and periods of despondency. In some insomnia is present, while in others there is a strong tendency to somnolence. Again, there is emotional excitement, the usual phenomena of hysteria being manifested in all their intensity; or there may be the graver forms of psychical disturbances, such as epileptic seizures, mania, and melancholia. Among the most aggravating symptoms are hallucinations of hearing: ringing of bells, hissing, roaring, puffing, and other distressing sounds fill the head. The general impairment of the sense perceptions produce, in even the mildest cases, a form of mental obscuration amounting to an imbecility. This mind infirmity is seldom overcome. The bodily functions are imperfectly performed, and there is waste of tissue with feebleness and want of muscular power. In addition there are digestive derangements, which, with the existing impairment of the body and mind, makes life on the part of the patient in many cases a misery.

That the sensory derangements and the resulting psychical and physical effects, herein portrayed, have not been overdrawn, the history of the following cases will show:

Twenty six years ago, A. F——, aged twenty-one years, was injured by a branch from a falling tree striking him upon his left shoulder. He was unconscious for a short time only. For about a month following he was unable to do anything on account of the weakened and semi-paralyzed state of the entire left side of the body. There was some incontinence of the urine, which he states still annoys him to a slight degree. He gradually regained strength, and at the end of a few months was able to resume his duties. The weakness and numbness of the left side never completely disappeared. He had a very rapid and irregular heart action, which, associated with the weakness of the left side, greatly impaired his powers of endurance. Recently he was examined and the following conditions were noted: There is a general appearance of blunted intelligence. The heart beats 120 per minute, the rhythm is irregular, and its sounds and impulse are indistinct. There is slight hyperæsthesia of the lumbar spine, and hemianæsthesia of the left side of the body, which extends to the lips and tongue. Tests with the æsthesiometer show that the sensation is reduced for all parts of the affected side to one fourth that of normal sensibility. There is ageusia of the left side of the tongue, and auditory anæsthesia of the same side, hearing being $\frac{6}{4}$, while the right ear is unimpaired. The vision is affected, R. E., $\frac{1}{3}\frac{2}{0}$; L. E., $\frac{1}{8}\frac{2}{0}$. The tongue and left palate are sluggish, and there is slight paresis of the arm and leg of the affected side. The patellar reflex is diminished and there is a slight dragging of the left foot, the toe striking the floor in advance of the heel. In this case, the mode in which the injury was received would suggest a spinal lesion, but the symptoms show beyond question that the lesion is central; presumably involving the middle and posterior portions of the internal capsule, weakening the transmission of the motor impulse, and seriously interrupting the conduction of the sensory impressions.

In the following case, the history and notes are quite imperfect: A soldier in the late war was thrown from his horse to the ground, striking upon his head, rendering him unconscious for about an hour. Although able to be around his quarters, he remained off from duty for a month. At present he suffers from vertigo, pain in the back and head, loss of memory, numbness of the right side, and dyspepsia. Hemianæsthesia affecting the entire right side is present, and is associated with considerable muscular atrophy. Moderate hyperæsthesia of the cervical and lumbar regions of the spine exists. Vision is impaired equally in both eyes, being $\frac{1}{4}\frac{2}{0}$. The pupils are normal. There is no paresis, or evidence of former paralysis, present. Other forms of anæsthesia were not

discovered. Is pale and anæmic, the expression denoting mental obscuration.

In case third, the various sensory and psychical disturbances are well marked, motor derangements being absent. The history is as follows: Two years ago a strong, active laborer, aged fifty-four, was thrown from the top of a car, which was standing upon a trestle, to the floor below, a distance of thirty three feet, and buried underneath the car and its contents of coal. The region of the right hip and the inner aspect of the right knee were both severely bruised. There was a small superficial contusion of the right side of the head in the parietal region, uncomplicated by either depression or fracture of bone. He was severely shocked, and when seen, an hour after the accident, there was a rapid and feeble state of the pulse, with general coldness of the surface of the body. There was no loss of consciousness at the time of the accident. Reaction followed slowly, and at the end of the week he was able to get out of bed, although he was very weak and lame. Beyond slight mental confusion, the mind at this time was clear, and he was able when first seen to give a correct account of the accident in all of its detail. A few weeks afterward he called at my office. His face was pallid and careworn, and he complained of loss of strength and want of appetite, with inability to sleep. There was a rapid and weakened heart action, accompanied with gastric disturbances and various tracts of spinal hyperæsthesia, that of the lower half of the dorsal region being the most intense. Considerable emaciation had occurred in the interim, and it was plainly evident that he was suffering from the effects of the recent injury, which was rapidly developing the characteristic symptoms of remote lesions of the central nervous system consequent upon severe brain traumatism. Continuous observation of the case from that time until the present has fully sustained the truth of this inference, and in support thereof a brief summary will be given of the various symptoms presented. His weight, which at the time of the injury was one hundred and fifty four pounds, rapidly decreased, and within a few weeks thereafter he had lost nearly thirty pounds, which has never been regained. From the first there has been great loss of muscular power. A localized periarthritis developed at the seat of the knee injury, which subsequently resulted in a superficial necrosis of the inner condyle of the femur. Sacrodynia developed over the sacro-lumbar regions, being severest upon the right side in the region of the sacro-iliac synchondrosis. There is hyperæsthesia of the entire spinal column, it being exquisitely tender in the upper cervical, middle dorsal, and lumbar divisions, with spinal rigidity. He has aged rapidly, and the posture is stooping, the general appearances indicating a broken constitution. Memory is defective, and there is considerable confusion of the mind. Is irritable, morose, and easily excited. Becomes angry over trifles. The sleep is broken by distressing dreams. Has pain in the head, and roaring noises often disturb him. Complains of a constant numbness of the right side of the body. Examination discloses almost complete hemianæsthesia of the right half of the same, extending to the median line, and involving the lips and tongue. Is unable to determine the number or the situation of the points of the æsthesiometer when applied to any portion of the right half of the body, unless the distance apart exceeds from six to nine inches. At these distances he evinces a great deal of obtuseness and want of certainty as regards their application. The sense of pain is greatly diminished, puncture of the skin with pins being scarcely felt upon the affected side. The right half of the lips and tongue is markedly anæsthetic, while upon their opposite sides sensation is quite perfect. Taste upon the anæsthetic portion of the tongue is seriously impaired, so much so that common articles of food cannot be distinguished with any degree of certainty. Hallucinations of the sense of smell exist, while mild odor tests show a condition of partial anosmia, particularly of the right side. Hearing is impaired: R. E. $\frac{6}{6}$; L. E. $\frac{15}{40}$. Five months after the accident the left pupil commenced to enlarge. This condition persists, the pupillary borders having in the meanwhile become irregular. As the result of retinal degeneration, vision in the left eye is now reduced to $\frac{4}{200}$. There is concentric reduction of the visual field, the inner, middle, and outer circles representing respectively the color perceptions for dark green, red, and white when viewed at a distance of two feet. Vision in the right eye is normal, the field being unaffected. Monocular diplopia of the lower and outer field of the left eye was an accompaniment of the early ocular changes. Vesical irritability has persisted throughout, and is aggravated in consequence of the sacrodynia. The reflexes are weakened to a slight extent. There is, and has always been, a complete absence of paresis.

Briefly considered, this case presents all of the various forms of sensory anæsthesia, including the anomalous condition of amblyopia of the left eye. The present scope of our knowledge scarcely enables the definite determination of the full extent of the lesions which have induced this amblyopic condition. The probable conclusion would indicate that there is a want of the usual decussation of the deep optic fibres, thus affording an instance of a central injury with the visual disturbance occurring upon the same side as the lesion. Or, in other words, a unilateral lesion affecting the left side of the cerebrum, capable of inducing all the existing sensory phenomena.

From what has been said, it should not be inferred that sensory disturbances are always unilateral. On the contrary, many instances occur in which these symptoms are bilateral, or diffused over widely separated portions of the body. The consideration of these cases, together with many others of like character, has been purposely avoided, on the ground that neither the allotted time nor the scope of this paper will permit of their introduction.

In conclusion, the following deductions would appear to be sustained:

1. Sensory derangements occur alone, or in conjunction with motor disturbances.
2. The gravity of cerebral lesions, inducing solely sensory derangements, is quite as great as those which occasion impairment only of the motor functions.
3. The presence of one form of sensory anæsthesia is an indication of the existence of the others.
4. Those forms of sensory disturbances which most frequently coexist, are those of common sensation and vision.
5. Amblyopia is the most common visual disturbance, and while it is usually of the crossed type, it may occur upon the same side as the central lesion.
6. An anæsthesia has the same permanency as a paresis.
7. Hyperæsthesiæ most frequently depend upon local causes, while the anæsthesiæ are central in their origin.
8. Psychical disturbances which follow the sensory derangements are but slightly less severe than those which accompany the various forms of paresis.
9. Neurasthenia is generally a constant accompaniment of the traumatism which induces an association of sensory derangements.
10. The prognosis in the milder forms of sensory impairment is good. In those cases in which there is an association of the various forms of anæsthesia, the prognosis is grave. Improvement is not uncommon, while complete recovery is a rare event.

Cramps in the Legs.—Viburnum prunifolium is recommended for the relief of troublesome cramps in the calf of the leg occurring so frequently at night. This is an old remedy which has been used in domestic practice from time immemorial. The common name of viburnum opulus is "cramp bark," and its popular reputation for the cure of cramps and spasms used to be great and widespread.

SOME POINTS ON THE LOCAL THERAPEUTICS OF DISEASES OF THE NOSE AND THROAT.[1]

By WENDELL C. PHILLIPS, M.D.,

ASSISTANT SURGEON TO THE MANHATTAN EYE AND EAR HOSPITAL, THROAT DEPARTMENT, NEW YORK.

At the very commencement of this paper, to avoid being misunderstood, I desire to place myself on record as being decidedly in favor of conservative surgical procedures in a large proportion of the cases of chronic catarrh. The recent rapid strides in the surgical treatment of the various forms of naso-pharyngeal and laryngeal diseases have more than kept pace with similar advancement in other specialties. The nasal saw, snare, trephine, drill, forceps, scissors, and gouge, together with various other accessories, have taken their proper places in the domain of nasal surgery; and I venture to predict that in future days they will be looked upon as "the ancient land-marks which the fathers have set," and the labors of rhinologists will be in the direction of modifying and improving, rather than doing away with their use. It cannot be disputed that there is still room for greater perfection in our instruments, many of which are crude and unequal to the tasks imposed upon them; and as a result, many of our operations smack of the unsurgical. Notwithstanding these drawbacks, the results of these newer and more intelligent methods of treatment are satisfactory far in excess of the former modes, where very little or no surgery was resorted to. A perusal of the case books in any of our hospitals or clinics for nose and throat diseases, or of the private records of rhinologists, will reveal two quite radical changes, when compared with those of several years ago. First, the greater number of operations performed, and second, the shorter average attendance of the patients. The records of the throat department of the Manhattan Eye and Ear Hospital show only eighteen operations for an attendance of five hundred and forty patients in the report of 1881; fifty-seven operations for an attendance of seven hundred and forty-three patients in 1882, and six hundred and sixty-seven operations for an attendance of twenty-five hundred patients in the report of 1890. And it is interesting to note that while the number of operations has largely increased, the average length of time of attendance of the patients has largely decreased.

These facts lead to the logical conclusion that the patients are cured or relieved much quicker than formerly, and become strong arguments in favor of the more modern methods of treatment.

Again, in the earlier days men entered this specialty, many times only to abandon it after becoming discouraged and disheartened by the many failures. Now, the converse is true, and conscientious labor is being put forth to perfect every form of treatment.

All this is preliminary to the subject before us, viz.: A discussion of some of the medicines used locally in the diseases of the nose and throat and the best method for their application.

A word as to the use of the spray, an instrument that has been both extolled and condemned. By some it is used as much as ever, by others far less; and many have placed it among the antiquities, where it will not become clogged or broken any more. It has been called a germ-carrier, a thing unclean, and a source of many evils. But a good and useful instrument should never be discarded until something better has come to take its place. And nothing has yet appeared that will accomplish the work done by the spray, and no instrument now in use can be so well adapted for bringing medicines into contact with the diseased membranes.

Many of the recesses of the nasal chambers, pharyngeal vault, and larynx cannot be reached except by its use; and no conscientious rhinologist will attempt to treat his cases without the local use of medicinal agents either for the diseases themselves or for the proper healing of the wounds made in the various operations resorted to.

As to the spray tube being unclean, the same argument holds good in the use of all our instruments, nearly all of which enter farther into the cavities than the spray tube. It is no more difficult to sterilize a spray tube than any other instrument, and of course it should be done each time used.

A fact that cannot be disputed is that behind an unclean instrument is an unclean operator, and this kind of a criticism recoils from the instrument to the operator. The spray should be abandoned by no one, and especially by no physician in general practice. With a carefully selected series of medicinal agents he will be able by its use to treat successfully many cases.

There are so many medicines used locally in the various diseases of the nose and throat, that to even enumerate them would consume too much time. Suffice it to say that aqueous solutions, especially sprays, are used far less than formerly, and the rivers of Dobell's solution must hereafter flow into other than the nasal channels. This is not so because of any harm that has arisen from the use of aqueous solutions, but something better has come to take their places, and we part with them with the kindest feelings, for they have been faithful friends. To this rule there are exceptions, the most important of which is the solution of the peroxide of hydrogen, which, in addition to other qualities, is especially useful in the softening and removal of inspissated crusts, and for cleansing open sores and cut surfaces.

The failure to get good results from operations in the nose is due in most instances to neglected after-treatment. The conditions present in these cavities will not allow of an antiseptic dressing that may be left for three or four days and then removed with the expectation of finding the healing process completed, as may be done on other parts of the body, but healing in all cases must go on in the presence of septic surroundings. Thus the necessity for frequent and long-continued after-treatment in all operative cases, and the peroxide of hydrogen, used either by spray or cotton probe, stands at the head of the list of remedies that may be used to thoroughly cleanse the cut surfaces.

In his valuable paper on "Peroxide of Hydrogen and Ozone,"[1] read before the International Medical Congress at Berlin, Dr. Paul Gibier called special attention to the germicidal properties of this remedy. He quotes the experiments of Miguel, Bouchet, Nocart, and others, who sustain the theory that peroxide of hydrogen is one of the most powerful destroyers of pathogenic microbes, and believes the active element in this compound to be ozone. The remedy in his hands has been made to destroy various forms of bacilli and even the hydrophobic virus is rendered neutral by its presence. His paper closes with the following suggestions, which are worthy of quotation here:

"First. This chemical seems to have no injurious effect on animal cells.

"Second. It has a very energetic destructive action upon vegetable cells—microbes.

"Third. It has no toxic properties and is harmless when given by the mouth."

If this is true, then this valuable remedy, discovered by Thenard, in 1818, has never taken its proper place in the realm of therapeutics. Its disintegrating effect upon the diphtheritic membrane and its consequent tendency to lessen the activity of the inflammation underneath and around the patch cannot be denied. Experiments along this line have been carried on for some time by different observers, by merely applying it to the membrane. Dr. David Philips[2] recommends an application of the peroxide of hydrogen to the diphtheritic membrane, then scraping it all away with a curette, and following up the treat-

[1] Read before the New York County Medical Society, February 23, 1891.

[1] Medical News, October 25, 1890.

[2] New York Medical Journal, December 6, 1890.

ment by making frequent applications of the same remedy. In his cases the membrane has not returned after the first application.

In two cases of diphtheria I made use of Marchand's solution of peroxide of hydrogen, but first scraped the diphtheritic membrane and then rubbed it well into the surface where the membrane had been. After the first time it was merely applied with an applicator, and in both cases the inflammation subsided very rapidly and the membrane did not reappear except in isolated spots, and these were easily destroyed by another application. These were favorable cases from the outset, and probably would have recovered with ordinary treatment, but the method is well worth a trial.

Peroxide of hydrogen is useful also for arresting nasal hemorrhage immediately after an operation. The undiluted solution should be sprayed into the nose, where it will mix with the blood and form a firm clot that will arrest the hemorrhage by pressure, the same as ordinary tamponing with cotton.

The reason for the decline in the use of aqueous solutions for sprays is that we have been furnished with a better medium in the various products of petroleum that may now be obtained in a liquid form. They are palatable, non irritating, and capable of carrying many needed remedies in solution, all of which may be effectively used by an ordinary hand atomizer. They are soothing to mucous surfaces, may be used warm or cold, and they never clog the spray-tube. They may be made antiseptic to some degree by the addition of gum benzoin. When used as a spray, they are easily brought into contact with the membranes of the naso-pharyngeal tract. On account of their oily properties they remain on the surface of the membrane for some time, during which they not only protect the membrane from atmospheric influences, but give to it whatever remedy they may contain.

By various means liquid petroleum will take into solution, in varying proportions, nearly all the remedies now used locally in the upper air passages. Many of these enter directly into solution, while others must first form solutions with other drugs, chiefly animal oils, then they will retain their solubility with the petroleum solutions.

Some of the principal drugs referred to are menthol, eucalyptol, oil of eucalyptus, cocaine, terebene, thymol, carbolic acid, camphor, iodine, oil of gaultheria, tar, iodoform, and I have recently had a solution of aristol and liquid petroleum made which will be described later in this paper. All of these solutions may be used as sprays, but three or four of the more important ones will suffice for general use.

Dr. Charles H. Knight has been widely quoted as using menthol with liquid petroleum in the proportion of a drachm to the ounce. This proportion I consider far too strong for spraying purposes and is exceedingly painful and irritating to the membranes. Menthol should not be used in a proportion to exceed twenty grains to the ounce, and ordinarily ten grains to the ounce will suffice. Menthol is indicated in painful inflammatory affections that are acute, and in chronic catarrhal diseases that are painful in character.

Another spray made up of either the oil of eucalyptus or eucalyptol with liquid petroleum has taken the high rank it deserves among rhinologists. The eucalyptol is preferable to the oil of eucalyptus; it is less irritating, pleasanter to the taste, and can be used in smaller quantities. Besides, in about five per cent. of the cases, the oil of eucalyptus causes severe and prolonged attacks of sneezing. The eucalyptol should not be used stronger than half a drachm to the ounce, and the oil of eucalyptus not stronger than a drachm to the ounce, and they are indicated in cases accompanied by excessive secretion.

The menthol, eucalyptol, and liquid petroleum may, in the proportions above mentioned, be combined in one solution that will be found useful in many cases. Terebene may be used in the proportion of twenty grains to the ounce. Carbolic acid and iodine, of each one grain to the ounce, is sufficient for cases requiring these drugs, and thymol may be used ten to twenty grains to the ounce.

Recognizing the fact that aristol, the iodide of thymol, possesses many of the virtues of iodoform without its unpleasant odor, and finding that it has a marked influence on those forms of atrophic rhinitis manifesting the symptom known as ozæna, and also upon specific rhinitis, I suggested to W. H. Schieffelin & Co. that a solution of aristol in benzoinol might be made. They succeeded in doing so and a solution forty grains to the ounce, suitable for spraying, is now in the market. Van Horn & Ellison, druggists, make a solution of aristol and liquid petroleum as high as one hundred and eighty grains to the ounce, suitable for genito-urinary cases and surgical dressings, and application with cotton; but any solution above forty grains to the ounce is too thick for spray. I have found thirty grains to the ounce to be sufficient.

A short experience with this drug has given favorable results in several cases of atrophic rhinitis; but it is too early to say positively, whether the continued use of it will do more than correct the carrion-like odor of the breath and lessen the tendency to the formation of inspissated crusts. The odor of the breath has disappeared after a few days' treatment in every case, but the patients have been allowed to use the spray several times a day at their homes, and at each visit all the crusts have been removed.

Aristol may also be used alone or with other powders by insufflation. A solution recommended by Lowenstein [1] is made of aristol one drachm to flexible collodion one ounce, to be applied to mucous membranes, ulcers, or wounds. I used this form of solution of aristol successfully in one case of commencing specific ulceration of the septum and in four cases of slight ulceration of the septum due to "picking" with the finger. Aristol certainly deserves a fair trial, and the results so far obtained are favorable. Time will not permit a description of the results that may be obtained from many other drugs that are soluble in liquid petroleum.

Another drug has recently come into quite general use by rhinologists, and its popularity is due to the possession of qualities both styptic and antiseptic. The aluminium aceto-tartrate was first used in this country by Dr. O. B. Douglas, the president of your society, and the following is a description of the drug and its uses furnished by him, viz., "I first used the aluminium-aceto tartrate in February or March, 1890, in solution of about fifty per cent., applying it to the mucous surfaces in chronic hypertrophic rhinitis. This strength proved caustic in its action and I diluted it to twelve and a half per cent. I have found it most excellent as a disinfectant astringent after operations in the nose. It may be slightly painful when first applied, but this soon subsides. I know of no drug more serviceable for the purposes indicated. I think it was first used by Shaffer, of Bremen, and Lange, of Copenhagen, five years ago."

I have verified these recommendations of Dr. Douglas in many cases, but use it chiefly to arrest hemorrhage after operations. The method pursued is, to tampon the cavity of the side of the nose operated upon with absorbent cotton that has been dipped into a twelve per cent. solution of the aceto-tartrate of aluminium. The cotton may safely be left in the nose from two to four days, and the pledgets will be inodorous when removed, thus proving it to be possessed of important antiseptic qualities.

While there are numerous operations and various remedial agents for the cure of diseases of the nose and throat, he who would be successful in the treatment of his cases must take into careful consideration their physical characteristics, their constitutional and inherited tendencies and their hygienic surroundings. In the treatment of each individual case his attention must be directed to the hygienic, dietetic, and constitutional, as well as the operative and local requirements.

161 East Thirty-Seventh Street.

[1] Therapeutic Gazette, p. 573, August, 1890

SOME PRACTICAL POINTS IN THE DIAGNOSIS OF TABES, AND THE SIGNIFICANCE OF CERTAIN SYMPTOMS.[1]

By WILLIAM M. LESZYNSKY, M.D.,

LECTURER ON MENTAL AND NERVOUS DISEASES AT THE NEW YORK POST-GRADUATE MEDICAL SCHOOL; NEUROLOGIST TO THE MT. SINAI HOSPITAL AND DE MILT DISPENSARIES.

I HAVE no seductive theory to offer. No new doctrine to promulgate. No abstruse problem to solve. No original discovery to announce. Nor is it intended to supply a "long felt want" of medical literature.

The object of the writer is to present, from a clinical standpoint, a brief résumé of modern methods in the diagnosis of tabes.

This subject was selected after much thought, as being one of practical importance both to the general practitioner and the specialist. Not only the specialist for diseases of the nervous system, but also the ophthalmologist, the laryngologist, and the surgeon are frequently called upon to decide as to the underlying constitutional cause of certain unaccountable symptoms.

Tabes has generally been considered and described as an affection of the spinal cord. To-day it must be looked upon as a degenerative disease of the entire nervous system, although the most prominent and extensive lesion is found in the posterior columns of the cord. The pathological process may involve the cranial nerves as well as the peripheral nerves of the extremities. The brain, especially the cortex, is at times also affected.

The name "ataxie locomotrice" (locomotor ataxy) was given to this disease by Duchenne in 1858 and is still quite popular. It is objectionable because it is merely descriptive of a symptom, and that symptom may not appear until late in the course of the disease.

"Posterior spinal sclerosis" is also unsatisfactory, as it refers only to the most easily discoverable lesion.

"Tabes dorsalis" or "wasting of the back" was applied by Hippocrates to certain symptoms supposed to be due to venereal excesses, but was restricted to this disease by Romberg. The term "tabes," however, has lately obtained wider use, and is rapidly becoming universal.

The early diagnosis of a disease, which, so to speak, is chronic from the very beginning, as well as slow and insidious in its development, is of incalculable value, inasmuch as it saves the patient much misdirected and useless medication, and enables us to institute a rational plan of treatment. In many cases, where unrecognized tabes has existed for a long time, various pronounced symptoms may appear, and, although a part of the disease, may conceal its true character. "Correct observation is a matter of the greatest necessity; for on what we observe we have to make an interpretation and frame a line of action; consequently, if the observations are faulty, the interpretations we place upon them are valueless."

The classic picture of the well-advanced disease as described in the text-books is familiar to you all. A mere tyro in medical practice should be able to diagnose tabes at this stage where unmistakable symptoms are present.

Before emphasizing the prominent points in diagnosis, let us familiarize ourselves with the symptomatology. The symptoms which may appear in the early stage, or at any time during its course, which may lead to a recognition of the disease, may be grouped for convenience in the following order:

1. Sensory disturbances — the so-called fulgurating pains; cutaneous hyperæsthesia and anæsthesia; retarded conduction of sensation.
2. Abolition of the knee-jerk.
3. Visceral symptoms, known as "crises," affecting the gastro-intestinal tract, bladder, or rectum, and, occasionally, laryngeal crises.
4. Eye symptoms—such as myosis; inequality of the pupils; loss of pupillary light reflex; ocular paralyses; atrophy of the optic nerves.
5. Transient paralysis affecting the extremities.
6. Perverted sexual function.
7. Inco-ordination.
8. Affections of the bones or joints.

The peculiar pains may exist at varying intervals for years before any other symptom is complained of.

They are pathognomonic, and are characterized by the irregularity of their distribution, most frequently affecting the lower extremities, although they may occur in any portion of the body. They are almost always sharp and piercing, and are rapidly repeated at the same spot, which soon becomes excessively hyperæsthetic. These pains are only too often thought to be rheumatic or neuralgic.

At almost any stage of the disease recurring attacks of severe gastralgia may take place, accompanied by exhaustive vomiting which resists all treatment. Instead of these "gastric crises" there may be severe and unaccountable diarrhœa, which lasts for a long time, attended by violent colicky pain that may simulate an attack of renal colic.

Ignorance of the occurrence of these visceral symptoms is a common source of error in diagnosis.

Obstinate constipation is usual, and at times the patient complains of painful defecation or rectal tenesmus, or of a severe burning pain in the rectum as though a foreign body were present.

Incontinence or retention of urine is frequently an early symptom. Owing to paresis of the muscular coat of the bladder, considerable effort is required in micturition, hence, the bladder is not completely emptied, and the residual urine may undergo decomposition and thus set up a cystitis.

Paroxysms of true laryngeal spasm occasionally occur, resembling whooping-cough or laryngeal stridulus. These attacks may last from fifteen minutes to one or two hours, and have been known to prove fatal.

The pupils may be permanently contracted or unequal, and the reflex action to light may be absent. Frequently, diplopia is complained of, owing to a transient paresis of one of the ocular muscles (usually the external rectus). Or there is a permanent ocular paralysis. Atrophy of the optic nerves when it appears is generally an early symptom and may be mistaken for asthenopia.

This error would not occur if the ophthalmoscope were in general use.

Restriction of the temporal half of the visual field in conjunction with red-green blindness is highly suggestive of the tabetic origin of the optic atrophy.

A sudden motor paralysis of one or both extremities may take place and disappear in a few hours without leaving a trace.

Perverted sexual function may show itself in a suddenly developed impotence or a transient satyriasis. Exaggeration of the sexual function sometimes occurs in women, as the so-called "clitoris crises." These phenomena are by no means characteristic of tabes.

The peripheral nerves may become affected, but they possess the power of regeneration. This may account for many of the transient symptoms. This remarkable capacity for regeneration has been frequently shown after injuries and experimental nerve section. Such is, however, not the case with the central nervous system. Even after a year not a trace of incipient regeneration is discoverable, either in the posterior columns or in the posterior horns.

Then there is a peculiar affection of the joints, of a trophic nature, known as tabetic arthropathy. All of the joints may be affected. As a rule only one or two joints are involved. It may simulate arthritis deformans and lead to complete disorganization of the joint and the loss of the head of the bone. This condition may develop after a trifling injury, considerable swelling of the joint taking place, accompanied by extensive infiltration of the soft parts. The absolute painlessness of the entire proc-

[1] Read before the Mt. Sinai Hospital Alumni Association, January 27, 1891, and before the Newark Medical and Surgical Society, February 19, 1891.

ess, should at once direct the attention of the physician to the origin of the trouble. Spontaneous fractures of bones and the rupture of ligaments from very trifling causes are sometimes observed as the first indication of tabes. When inco-ordination or locomotor ataxia is noticeable, the nature of the disease is so evident that it only requires the demonstration of corroborative signs in order to reach a positive diagnosis.

It is not meant to imply that such an array of symptoms as have just been enumerated is found in every case. That would indeed be very hard lines for the sufferer. But it is well to be aware of the probable appearance of one or more of them during the course of the malady.

Tabes is the most common chronic disease of the nervous system, and its manifestations are numerous. Males are more frequently affected than females. The time of life during which it usually appears is between thirty and fifty years of age.

With these facts in mind, it is advisable, when we have to do with unaccountable symptoms, to make a more thorough investigation as to their origin, rather than depend upon empirical methods of treatment for their relief.

The earliest and most constant objective sign of tabes is the loss of the knee jerk. Berger and others have claimed that in about one per cent. of healthy people the knee-jerk is absent. The correctness of this assertion has been questioned. Its absence is invariably due to an obstruction in the reflex arc connected with the reflex centre situated in the lumbar region of the cord, in the segments corresponding to the second, third, and fourth lumbar nerves.

Thus it is lost in old age and in some cases of diabetes; in anterior polio-myelitis; or from a pathological process such as tabes or myelitis involving the posterior columns in the lumbar cord; or from interference with the integrity of the anterior crural nerve, as in peripheral neuritis; or as a result of neural or myopathic degeneration from local or constitutional causes. Owing to the absence of the knee-jerk, several of the conditions above mentioned are often mistaken for tabes, especially multiple neuritis. On the other hand, I have frequently had patients sent to me with the diagnosis of tabes, based upon a history of pains in the extremities, the presence of cutaneous anæsthesia, and the alleged absence of the knee-jerk, in whom I have been enabled to demonstrate that the knee-jerks were not only present but active. Occasionally much patience is required in satisfactorily determining whether the knee jerk is present or absent.

It is never safe to state that it is absent unless repeated and varied tests have been made and the clothing removed.

In many instances, the anticipation of the tap upon the patellar tendon occasions involuntary rigidity of the flexor group of muscles, thus bringing to bear sufficient opposing force to overcome the action of the quadriceps. During the examination the patient should close his eyes, and his attention should be diverted from the purpose of the examiner either by conversation or rapid interrogation. Or he may be directed to make some muscular effort with the hands, such as forcibly interlocking the fingers, or elevating the arms, etc. With this object in view, any other similar expedient may be resorted to that suggests itself to the examiner.

As has previously been mentioned, modern observers have shown that inco-ordination is not always present in tabes.

Yet, on the other hand, an erroneous diagnosis has often been made from the presence of this symptom. To tell a patient to put his feet together and stand with closed eyes is a simple matter. In case he sways from side to side or falls, we call this static ataxia, but although it frequently occurs in tabes, it is not of itself pathognomonic. A slight swaying is often noticed in healthy individuals.

Static inco-ordination is often present in hysteria or pronounced neurasthenia; during convalescence after prolonged illness; in transverse myelitis and in multiple neuritis from diphtheria, alcohol, lead, arsenic, etc.

In the condition known as the "Argyll-Robertson pupil" which is present in about four-fifths of all cases of tabes, there is absolute loss of the reflex action of the iris to light, while the pupillary contraction in convergence or accommodation is preserved.

This inaction of the pupil when exposed to light is not indicative of a lesion in the spinal cord, as was formerly supposed, before tabes rested upon a firm pathological basis; but is the result of interference with the reflex path in its course between the optic nerve, corpora quadrigemina and oculo-motorius. It is an infallible sign of central nerve degeneration, when the eyes are apparently otherwise normal.

The light reflex may be feeble or lost after fifty years of age, and is absent in some cases of cerebral syphilis and paretic dementia. The myosis found in tabes, however, is due to a degeneration of the sympathetic nerve fibres, which pass through the cilio-spinal centre in the cord.

In examining the pupils for reaction to light, considerable care is necessary. This is not so simple a procedure as it seems and is deserving of careful attention.[1]

The following method should be pursued: Place the patient in a position facing a window. Instruct him to gaze steadily upon some large object at least twenty feet distant, and to keep both eyes open. The eyes are then covered or shaded. In a few moments one eye is suddenly uncovered and exposed to light; when in the normal state the pupil (which always dilates in darkness or subdued light) immediately contracts. The other eye is then tested in the same manner.

The well-established principle that faulty methods in examination, like false premises in reasoning, result in erroneous conclusions, finds daily exemplification in the investigation just mentioned.

The pupils should not be examined before a gas flame, as the patient is apt to and generally does "fix" upon the flame, thereby causing contraction of the pupils in accommodation, which may mislead the examiner. A very common error to be guarded against, which is similar in its result, is the natural act of the patient in looking at the examiner as soon as the eye is uncovered.

The toxic form of multiple neuritis, most frequently from alcohol, is commonly mistaken for tabes. When the peripheral sensory nerves are markedly affected this condition has been termed pseudo-tabes. The presence of ataxia, both locomotor and static, with anæsthesia and the absence of the knee-jerk, all point to tabes. But as these symptoms are usually accompanied by tenderness on pressure over the affected nerve-trunks, diminished muscular power, or paralysis, and the electrical reaction of partial or complete nerve degeneration, we are enabled to exclude tabes. In some cases it is at first quite difficult to make the differential diagnosis. I have repeatedly seen transverse myelitis mistaken for tabes, owing to pains in the extremities, inability to stand with closed eyes, and cutaneous anæsthesia. Such an error is generally due to gross carelessness or neglect in the examination. The presence or exaggeration of the knee-jerk with possible ankle-clonus, and the loss of muscular power occasionally accompanied by atrophy should serve to make the diagnosis clear.

Paretic dementia and tabes are sometimes found associated, but where the mental symptoms predominate we must favor the diagnosis of the former.

I shall not dwell upon the differential diagnosis of tabes from the other diseases referred to, but wish to emphasize the fact that the loss of the knee-jerk alone or the mere absence of the pupillary light reflex is not sufficient for a diagnosis. As a rule, when these two impor-

[1] See "The Significance and Value of Pupillary Phenomena in Nervous Disease," by the writer, in the New York Medical Journal, March 31, 1888.

tant signs co-exist, it is sufficient evidence to warrant the diagnosis of tabes This combination is not always present, even when the disease is well advanced. But the knee-jerk is lost in every case. In the presence of any of the series of symptoms that have been described, particularly the fulgurating pains, the absence of the knee-jerk is corroborative of their tabetic nature.

It has been said that the larger part of our clinical work is based upon the statements of the patient. This is indeed true, in many instances, yet these statements are to be carefully sifted and the personal equation always considered. It is in the broad field of clinical neurology, which the physician has usually sought through predilection, and which is of absorbing interest owing to its special psychological features, that we are often compelled to accept the statements of the patient *cum grano salis*, and exclude the element of simulation As is well-known, many patients with constitutional nervous disease are often partly dominated by morbid self consciousness and undue introspection, which lead them into unintentionally exaggerated descriptions of their sensations. In tabes there are certain objective signs that cannot be simulated, to wit: the loss of the knee-jerk, the eye-symptoms and the joint affection. As nearly all of the other symptoms are more or less subjective, I have purposely refrained from their further discussion, preferring to confine most of my remarks to those symptoms which are only discoverable upon physical examination.

61 East Seventy-fifth Street.

Clinical Department.

TWO TYPICAL CASES OF LUPUS TREATED WITH GALVANO-PUNCTURE.

By A. WILBUR JACKSON, M.D.,

NEW YORK.

In mentioning these cases the writer is actuated by two motives. One is the wish to impel physicians generally to give an exceedingly valuable and much-abused remedy a fair and sufficiently studied trial; and the other, to point the way to those who may be already preparing to investigate. Since the excitement caused by the introduction of the first specimens of Koch's lymph has about died out, and the need of some effectual and safe remedy for such diseases as lupus, cancer, etc., is as great as ever, no evidence which goes to prove the existence of such a remedy as galvanism, properly employed, certainly is, should for a moment be withheld.

The cases to which I wish to draw attention are as follows:

Case I.—Mr. I. I. C——, of W— , a small village of Orange County, in this State, came to me for treatment about three months ago. He showed me an ulcer of the typical lupus nature, which had, he said, been actively destructive for only a year or so, but had given him trouble for three years past. He was given an ointment of resorcin, ichthyol, and vaseline, and every sixth day the entire circumference of the growth was subjected to puncture with fine platinum needles, the negative pole being the active one, and the séances lasting from five to ten minutes. The tissue involved at the commencement was about one half inch in diameter, and nearly round in shape, situated at the right side of the nose, just over the moustache.

At the commencement of the treatment the current used was cautiously and very gradually increased from five to twenty milliampères, but later, with the aid of a .04 per cent. solution of cocaine, the patient was enabled to endure a much stronger current and as high as fifty milliampères was employed.

At the end of about one month there was abundant evidence that the treatment was accomplishing the required work, and at the expiration of a little over two months the spot was entirely healed over and the patient pronounced cured. In order to satisfy himself still further, the patient applied to one of the large hospitals for an opinion as to the advisability of a course of the lymph, when he was assured by the physicians in charge of the department to which he had applied, that there was no use of lymph, or any other remedy, as he was beyond a peradventure cured! The gentleman thereupon returned to his home in the country, where he now is a well man, in so far as the lupus at least is concerned. This patient is an intelligent man, and will take pleasure in confirming the above history to any one interested in the study of the disease. It should also be mentioned, that red clover extract with potass. iod. were exhibited throughout the treatment, as the constitutional history of the case suggested such procedure.

Case II. is very similar to that just cited, in so far as the treatment is concerned, the patient being, however, of the opposite sex. The ulcer was a large and very deep one, and a source of great mortification from its disfiguring presence, not to mention the other grave aspects of the case.

In this, as in the case just cited, extract red clover with potass. iod. were exhibited throughout the course. The same current with the same ampèreage was employed, and with like results. The ulcer has healed, and what was an ugly sore which bade fair to result in the disfigurement and death of the patient, has disappeared, leaving a hardly noticeable cicatrix.

Of comse, I do not insist that success will invariably attend the treatment herein described, but give my experience for what it is worth, leaving it for others to test the matter for themselves if so inclined.

THE TREATMENT OF HERPES ZOSTER.

By GEORGE K. SMITH, M.D.,

NEW YORK.

Several years ago I met with a case of herpes zoster, in a blacksmith, thirty-four years of age. It was so good an illustration of the disease that I decided to take the patient with me to the clinic of the late Professor Samuel G. Armon, who was then lecturing at the Long Island College Hospital in Brooklyn. Professor Armon said that he was pleased to have the opportunity to exhibit the case to his class, for he had never seen a better illustration of the disease in his life. The eruption was over the course of the fifth intercostal nerve of the right side, and extended from the spine to the middle of the sternum. The vesicles were bright scarlet, intensely congested and painful.

Believing that the sufferings of the patient might be due to a local congestion where the fifth intercostal nerve is given off from the cord, I wet-cupped as near this point as I could; being careful not to let the cup rest on the inflamed skin. I took about two ounces of blood. As the blood was being drawn into the cup, I noticed that the bright scarlet color of the eruption was rapidly disappearing, "all along the line." The congestion was less, and when the cup was removed, the pain was gone. A little attention to the bowels was all that was done by way of medication, and in a few days the patient was able to go to his work. I have since had several cases which I have treated in the same way, with a like result.

GANGRENE OF THE SKIN IN AN INFANT.

By WALTER T. ROBERTS, M.D.,

LOUISVILLE, KY.

A case of gangrene of the skin which very recently came under my observation was so extraordinary in many respects that a description of it may be of interest to some of your readers.

It occurred in a healthy infant of nine months which was recovering from a slight attack of varicella, and

spreading with frightful rapidity terminated fatally in six days.

All the children of the family, eight in number, had the chicken-pox, the baby being among the last to develop it.

Before all the vesicles had matured there appeared on the left side of the head a circumscribed erythematous blush about three-fourths of an inch in diameter, followed rapidly by others varying in size from an eighth to one and a half inches. Within the twenty-four hours following, the epidermis would be slightly raised and peel off, leaving a not unhealthy surface beneath.

The anterior and lateral surfaces of the chest were invaded on the second day, and during the following night the left buttock became swollen, intensely red, and in the centre of the discoloration a greenish white patch appeared which under a poultice quickly sloughed out, leaving a deep ugly hole. About the same time there developed over the left pectoral region a number of irregular patches of erythema which coalesced, the skin becoming gangrenous in a few hours.

The majority of the blotches on the chest and neck assumed the greenish tinge and sloughed out, always leaving clean-cut deep cavities extending well down into the subcutaneous tissue. These holes varied in size from an eighth of an inch to an inch in diameter and occurred in great numbers. The large irregular patch over the left pectoral muscle was four inches long and two wide, involving about half of the axilla.

The child remained plump to the last, nursed almost ravenously, and died on the sixth day.

Whiskey and charcoal poultices alone were used in the management, but the rapidity of invasion and horrible course pursued by the eruption left small chance for recovery in an infant.

A CASE OF COLD ABSCESS OF THE EPIGLOTTIS, OF PROBABLY FOUR YEARS' DURATION.

By F. T. CHAMBERLAIN, M.D.,

WASHINGTON, D. C.

November 28th, 1890.—T. B——, male; aged twenty-eight. No specific history. Duration of uneasy sensation within throat, four years. There was slight difficulty of respiration at times, and a troublesome desire to swallow. Considerable dysphagia, which was the cause of patient applying for treatment. I failed to get any history of a foreign body or injury to pharyngeal or laryngeal cavities.

The patient was what might be termed a heavy drinker. Inspection showed a large buccal cavity, with a tumor extending behind and above the soft palate for about three-quarters of an inch, resembling exactly a small intestine inflated with air and of about the circumference of a keet egg. On swallowing the tumor would disappear, and reappear as soon as the act was accomplished. The surface of the tumor was covered with aborescent vessels originating from two main trunks running parallel with its long diameter.

There was only a slight inflammatory appearance present, which was probably caused by a drink of whiskey, which patient said he had taken a few minutes before examination.

The feel of the tumor indicated presence of fluid. There was considerable anæsthesia of the part, but I was unable to find the exact origin of the growth with the finger, owing to the length of the pharynx and the occlusion of the cavity by the body, and in consequence hesitated to make a diagnosis farther than of abscess. The use of the laryngeal mirror failed to help matters, owing to the obstructed view. On the following day, in the presence of Drs. Sinclair Bowen, J. V. Carraher, L. K. Batey, J. S. Saffold, and Mr. Sessford, I proceeded to aspirate the tumor with a small needle, after using a spray of a four per cent. solution of cocaine hydrochlorate, but this method proving slow and only getting a small quantity of thick yellow fluid, which later, under the microscope proved to be pus, I then made a small incision with a bistoury, and obtained a little over two ounces and a half of fluid, the sac contracting decidedly as the flow went on, necessitating the holding of the same with forceps to prevent its slipping from view.

After the entire evacuation of the sac, the appearance of the parts in the mirror was as if the patient had had a slight chronic laryngitis and epiglottitis. The epiglottis was slightly depressed in the centre, with a doughy look of the anterior surface. The vessels over the surface of the organ were enlarged and more numerous. Had one not acquainted with the former condition of the patient made an examination of the organ with the mirror at this time, he would never have suspected the previous existence of an abscess, and I was mystified myself, until after I had caught up the mucous membrane of the epiglottis, to account for the disappearance of the extra tissue. I then found that the entire mucous membrane of the organ, with the exception of a slight portion of the left side, was undermined, and in consequence of the elasticity of the tissue the membrane had contracted to almost its normal condition.

The appearance of the posterior surface of the pharynx, after removal of the tumor, showed clearly that the latter had existed for a long time, and tended to substantiate the history given by the patient. The sides of the pharynx about the pillars were highly hypertrophic, while the posterior surface extending up the back of the soft palate was worn away, and a depression was left so that there was almost given an outline of the bodies of the vertebra.

In the way of after-treatment, as there was no inflammatory condition, I prescribed simply rest of the organ, for a time, with a liquid diet, and the injunction to let me know at once in case of unfavorable symptoms. I did not hear from the patient until the following day, when I made an examination of the throat and found no inflammatory condition, although the sensation of something to be swallowed still existed, for which I gave sedative lozenges. Have seen patient a number of times since, and treated him for the pharyngeal trouble with partial success. Up to time of writing there has been no refilling of the sac and the epiglottis has returned to its normal size.

The above case is the only one of the kind that I can find reported, although I have searched the literature very carefully.

HYDROCHLORATE OF AMMONIUM BY INHALATION IN MEMBRANOUS CROUP.

By DWIGHT L. HUBBARD, M.D.,

NEW YORK.

It is not my purpose to propose a new remedy in the treatment of this disease, but to emphasize the importance of an old one. The beneficial results of the use of hydrochlorate of ammonium in eruptive fevers has been known for many years, but it seems to me few physicians fully appreciate its value and fail to obtain favorable results because of a lack of an experimental knowledge of its whole physiological effect upon the system. By "croup" I understand such cases as would properly and more scientifically be called "laryngismus stridulus" and laryngo-tracheal diphtheria. As many contend that we always have a false membrane of diphtheritic character in fatal cases of croup, those of us who have observed closely, learn at least to fear the formation of such membrane in "laryngismus stridulus" and often see the patients die with a fully developed "laryngo-tracheal diphtheria."

My idea in the use of hydrochlorate of ammonium is threefold: 1, As a heart stimulant, producing better oxidation of the blood by bringing it in more frequent con-

tact with the inspired air which is so deficient in quantity; 2, to relieve the spasm and the œdema of the glottis; and 3, to soften the false membranes. The ability of the remedy to do this is unquestioned.

Every practitioner knows that if he can successfully accomplish these three things he will feel that he is succeeding in benefiting his case.

The application of the drug by inhalation is what I would urge, having used it very successfully in my own practice. Place the patient in a small closed room, having a temperature of about 80° F., and generate sufficient heat under one drachm of hydrochlorate of ammonium to drive off the fumes copiously. Let this continue for fifteen minutes and repeat every hour. After each application ventilate the room as much as possible without reducing its temperature. Copious perspiration follows, the breathing becomes less stridulous, the mucus softer and more easily expectorated, and sleep generally comes to the exhausted sufferer. Of course I use other remedies in their proper places, but I depend mainly upon this treatment, and believe that only the best results come from it. Generally, the use of minute and oft-repeated doses of bichloride of mercury sufficient to act upon the glandular system, I believe helps materially. But I wish to particularize only on the use of the fumes of ammonium, hoping that the same satisfactory results obtained by me may follow its use by others.

344 West Thirty-third Street.

Progress of Medical Science.

An Early Symptom of Locomotor Ataxia.—The *Southern Medical Record*, quoting from German journals, states that Dr. Heinrich Weiss describes ataxia in a bookkeeper, whose first symptom was uncertainty in stepping backward. The importance of this initial symptom was pointed out by Althaus, in 1884, in reporting the case of a painter, who noticed it in himself as he stepped backward from the easel to view his work.

The Treatment of Earache.—Otalgias, according to Dr. Gompers, may be grouped as follows: The pain connected with otitis externa; the pain associated with otitis media; otalgia nervosa. In all cases it is violent. Otitis externa occurs either as a circumscribed furuncle, or as a diffuse inflammation of the auditory canal. In the first instance the pain subsides most rapidly if the furuncle is freely split open with a tenotome. If, however, the patient refuses to submit to this little operation, a solution of five parts of lead acetate and one part of alum in one hundred parts of water, applied on a small pledget of cotton to the furuncle, will lessen the pain materially. The bougies of Gruber may be substituted for the solution:

℞. Extr. opii aq..... 1 part.
Gelatin alb..... 50 parts.

These are introduced into the auditory canal, where they readily dissolve. The diffuse inflammatory condition is treated best with a five or ten per cent. solution of cocaine muriate, applied warm. Otitis media, which, as a rule, is associated with a myringitis, is characterized by the most violent pain. If the stage of suppuration has not yet been reached, the whole process may be anticipated by instillation of cocaine solution into the auditory canal, which is repeated every hour or two. Should this fail, carbo-glycerite of twenty per cent. strength must be employed, if we would obtain good results; if suppuration have already set in, and bulging of the membrana tympani becomes visible, paracentesis of the membrane will afford prompt relief. Antiseptic washes complete the treatment. In cases of chronic otitis this cleansing should be preceded by the application of fifteen or twenty drops of a five per cent. papain solution, which is permitted to remain for one hour, during which time the scales of hard, dry pus will soften and escape with the ear-wash. In contradistinction to otitis externa and media, otalgia nervosa is not dependent upon any aural inflammatory condition. It may be idiopathic, in which case there is often no cause apparent; or it may be sympathetic, the pain being reflected from some local condition of adjacent parts, *e.g.*, carious teeth, dental abscess, swelling or inflammation of the cervical glands, the throat, etc., and subsides when the affected parts return to health.—*Centralblatt für die gesammte Therapie.*

Treatment of High Temperature in Typhoid Fever and Phthisis with Small, Frequently Repeated, Doses of Antifebrin.—Dr. Favrat has treated a large number of cases with small, frequently repeated doses of antifebrin. He is strongly in favor of antipyretic treatment, as it greatly increases the comfort of the patient, and, by lessening metabolism, tends to husband the strength. The author points out at some length that most antipyretics are depressing, and that many of the newer ones are used rashly in practice, before we are thoroughly acquainted with their dangers, their doses, and the most effective ways of exhibiting them. When one reflects how long it has taken us to become even imperfectly versed in the possibilities to be attained with digitalis, opium, etc., we must conclude that new medicines are too lightly introduced, and in many cases too lightly cast aside. These considerations, and the fact that antifebrin, although a sure and active antipyretic, has certain drawbacks, such as the production of collapse, cyanosis, etc., have induced Professor Sahli and the author to try if they could not obtain the antipyretic action and at the same time avoid these drawbacks, by giving the medicine in small repeated doses, instead of in a single large dose, as is customary. The advantages of such a plan are obvious, as any unpleasant effects may be at once observed, and the medicine stopped before any serious harm has been done. Antifebrin acts rapidly, and is therefore specially suited for exhibition in small repeated doses, whereas a slowly acting antipyretic, such as quinine, either has no action in small doses, or causes a cumulative action after several doses have been given, thus losing the advantages to be derived from a divided dosage. In typhoid fever antifebrin was given in ½ to 1½ grain doses hourly in four cases. In no case was more than twenty grains given during the twenty-four hours. The action was satisfactory, and in all cases the temperature fell more markedly the higher it was. In seven cases in which similar doses were given every two hours, the reduction of temperature was scarcely sufficient. When the morning temperature was not over 101.5° F., however, a two hourly dose was found quite sufficient. Similar doses kept the temperature about normal in cases of phthisis. Neither in typhoid fever nor in phthisis did antifebrin exert any specific action on the course or duration of the disease. In all these cases antifebrin was well borne; a gentle antipyretic effect was maintained; in several cases sweating was present, but only in two was there the least sign of cyanosis or rigors. In no case was the patient ever much disturbed, and there were never any alarming symptoms. In conclusion, the author gives a warning against the use of large doses, three grains being reckoned as such. Although much larger amounts are often well borne, yet in certain cases fatal results have ensued. A number of such cases are cited.—*Deutsches Archiv für klinische Medizin.*

Insanity as a Symptom of Bright's Disease.—In the October number of the *Alienist and Neurologist* appears Dr. Alice Bennett's paper with the foregoing title—a paper read in June before the Medical Society of the State of Pennsylvania. Dr. Bennett emphasizes Hack Tuke's declaration that the psychological theory of insanity has prevented advance in the study of those forms of disease of which mental alienation is the most prominent, but by no means the sole, or even the most important, symptom. Blinded by psychology, a century of observation and the lives of hundreds of men have been lost.

Insanity is a symptom, or group of symptoms, that not always in its beginnings manifests disease of the organ of which it is the perverted action. Whatever the initial step leading to disordered brain action—exclusive of organic or developmental insanity—the remote effects are similar. If not checked, the process ends sooner or later in dementia—in the limited function of a more or less impaired brain tissue. The general practitioner is usually the one who has the opportunity of studying insanity in its inception, at the time when preventive measures may be attended with gratifying results. Sankey separates what he calls "ordinary insanity" from paresis, epilepsy, organic and developmental insanity. Speaking of the etiology of ordinary insanity, he says: "The disease consists in a morbid state of the blood, or of the processes concerned in nutrition." And he goes on to state that during the earlier period of the disease the symptoms are due to an alteration in the blood, in its quality and in its amount; there is some congestion with interstitial deposit of serum and of protein compounds; then atrophy of the brain substance and hypertrophy of the vessels. At first, symptoms are due to the circulation of impure blood; next to excessive supply; then they evidence the imperfect function of altered cerebral tissue. Following this trend of thought Dr. Alice Bennett makes some suggestions along a certain line that is the result of clinical experience. An analysis of sixty cases is given, together with interesting and instructive references to all the literature of the subject. The thirty-nine pages evince much care and thought, and furnish to the student a point of departure that may eventually lead to investigations of the greatest moment. The prophecy made earlier before the British Medical Association, "It is by chemical rather than biological investigation that the causes of disease will be discovered, and the power of removing them obtained," is constantly *en evidence*, and is every day making itself felt.

Mode of Entry of the Tubercular Poison into the Body.—Dr. Bollinger believes that the frequency of infection through the skin has been under-estimated. Several cases have been recorded of direct inoculation by wounds received from broken spittoons, by bites, operations, by earrings, etc. Eczema and impetigo increase the susceptibility of the skin. No case has as yet been attributed to vaccination, and it would appear that the tubercle bacilli are unable to live in the vaccine lymph. They also appear unable to pierce the pores of the skin as do some of the pyogenic organisms. The susceptibility of the mucous membranes is increased by inflammatory processes, such as otitis, rhinitis, conjunctivitis, and pharyngitis. The poison travels to the submaxillary glands and those of the neck, and generally causes local tuberculosis of the glands. The chief point of infection is of course the lungs. Local predisposition is best exhibited by apices which have been before diseased, but have undergone a healing process. The movement is deficient both in expiration and inspiration, and the liability to reinfection is increased by anæmia, irritants, constitutional influences, such as diabetes, disturbances of digestion, and unhealthy surroundings generally. The poison may pass through the lungs and attack the bronchial glands, under which circumstances the disease may be very insidious. The predisposition of the lungs again exhibits itself in metastasis; not every tubercular disease of these organs is due to inhalation of the bacilli or their spores. As regards primary tuberculosis of the testicles, joints, and bones, Bollinger considers that a latent hæmatogenic infection must be understood, which leaves as little trace of its point of entry as does a primary septic endocarditis or an osteomyelitis. Tubercular disease of the larynx depends upon an auto-infection through the sputum. The rarity of this disease in children is explained by the infrequency of pulmonary cavities in the rapid forms of phthisis. Primary tuberculosis of the intestine generally, combined with an affection of the mesenteric and retro-peritoneal glands, is usually occasioned by means of vitiated food and contaminated feeding utensils. Secondary tuberculosis of the intestine depends upon an auto-infection. The tubercular poison passes through to the intestine unaltered by the juices of the stomach and attacks the Peyer's patches and solitary follicles. Tuberculosis of the peritoneum, which is three or four times as common in men as in women, can arise directly from ulcers of the intestines, from tubercular abdominal glands, or, especially in women, from the urogenital tract; further, through contagion from the lungs and pleura, and finally in the course of miliary tuberculosis, or from caseous bronchial glands. Primary tuberculosis of the peritoneum is quite rare. As regards the infection from milk, this is, in Bollinger's opinion, undoubtedly due to the udder of the cow being affected with the disease. Infection through the milk of tuberculous women has not yet been proved.—*Münchener Medizinische Wochenschrift.*

The Organism of Cancer.—In the *Medical Press and Circular*, December 31, 1890, Dr. Jabez Hogg gives a passing view of his own searches for the characteristic organism of cancer, and of Dr. W. Russell's recent paper upon the subject of its discovery. Dr. Hogg calls attention to the fact that the spores of thallophytes and cellulares are always floating about in the air of town and country, and consequently they are often found in diseased structure exposed to the air for ever so short a time, and all decaying substances are naturally the seat of fungoid growths. Reflecting on the universality of the distribution of lowly organized vegetable bodies, and their known disposition to set up chemical decomposition in the pabulum on which they feed, places one at considerable disadvantage in any attempt to define the exact part the fungi play in any specialized form of disease.

"Astasia-Abasia" in Graves' Disease.—Dr. Eulenburg, of Berlin, discusses the state described by P. Blocq as "astasia-abasia." The author points out, first of all, that no consensus of opinion exists between Blocq and others who have written on the subject as to the true meaning of this morbid condition (*The Lancet*). Some consider it to be a mere symptom of a hysterical nature, while Blocq himself looks upon it as an independent morbid condition due to spinal lesion; Binswanger connects the symptoms with hypochondria, while Eulenburg observed a case of astasia-abasia during the progress of Graves' disease in an anæmic girl of eighteen, which shows that, apart from hysteria, a morbid condition may exist, not only comprising the symptoms represented by Blocq's description, but completely agreeing with their course and the effect produced on them by treatment. The girl had been treated for four months, and the goitre had not only considerably decreased, but the exophthalmos had almost entirely disappeared; palpitation and pulse became less frequent, and her whole nutrition had also considerably increased, when suddenly both her legs seemed to become paralyzed. She thought she had caught cold in a draughty passage. No other symptoms supervened. On examining the patient as to her sensibility and power of walking, the author diagnosed astasia-abasia, with a kind of self-suggestion as cause, as the patient had been seized once during the early part of her treatment with a sudden fear and consequent inability to pass over bridges. Psychical treatment was consequently indicated. The author informed her that a very painful and powerful remedy alone could do her good, but that this would cure her with certainty in a very few days. He applied faradism for about ten minutes below the knee and on the leg and foot most energetically, with rubefacient and of course painful effect. He then recommended some indifferent liniment and proposed to repeat the application of the faradic brush on the next day. Improvement was observed the same day, and one repetition of the treatment entirely cured the astasia-abasia.

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & Co., Nos. 56 and 58 Lafayette Place.

New York, April 11, 1891.

PANDEMICS OF INFLUENZA.

MORBUS omnium maxime epidemicus were the words used by Huxham, in the last century, to characterize the disease which we have so recently seen circling the world from east to west, and which now, after an interval of rest, seems to be turning back in its course and traversing again the lands made miserable by its previous visitation. There is no disease, not even excepting cholera, which travels so rapidly and so surely, defying quarantine and despising measures of the strictest hygiene, and which embraces so universally in its bone-racking, muscle-tearing, sternutofactive grip the dwellers of the whole earth, the inhabitants of every region and every clime. Within the past four centuries there have been recorded nearly seventy wide-spread epidemics of the disease, thirty-six of which well deserve to be called pandemics, since they embraced the entire eastern or western hemisphere, many of them, indeed, like the present, involving the whole world.

Dr. Drozda, of Vienna, has recently published a translation of a work on influenza by Drs. Kusnzow and Herrmann, of Charkow,[1] which contains an interesting historical sketch of the different epidemics that have been recorded from the earliest times. The first mention that we find of any disease resembling influenza is that of Hippocrates and also of Livy concerning an epidemic occurring in the year 412 B. C. In 591 A. D. there was a wide-spread epidemic of a disease characterized by headache, loss of consciousness, debility, and an irresistible tendency to yawn, which some writers have regarded as influenza. It was at this time that the custom arose of wishing health or God's blessing on any one who was heard sneezing, since this was regarded as the first symptom of the prevailing disease. A number of supposed epidemics of the same disease occurred from time to time after this, but the first of which there are any satisfactory records is one that visited France and Italy in 1387. In 1410–11 there was an unmistakable epidemic of influenza, called by the chroniclers of the time "febris catarrhalis," which visited nearly the whole of Europe and attacked more than one hundred thousand people in Paris alone. Other epidemics of greater or less intensity were noted in 1427, 1438, 1482, 1505, and 1510. The latter was quite extensive, visiting all the countries of Europe.

The first pandemic known to have visited the western hemisphere was that of 1557. The disease appeared suddenly in the eastern part of Europe and spread rapidly toward the west, embracing all of Europe, then passing over the ocean and visiting the settled portions of this country.

This was followed by another epidemic in 1580, which was marked by an unusual mortality in certain places, more than nine thousand persons dying from the disease in Rome in a brief period. Numerous visitations are recorded in different places during the rest of the century, but the next marked pandemic occurred in 1657–58, arising seemingly in Switzerland and passing thence into Germany and England. Other epidemics were reported in 1675–76, 1679, 1688, 1691, 1693, and 1699.

During the eighteenth century a much greater number of epidemics was reported; but this may be because the records of these times are fuller than those of earlier periods.

The first was one of slight extent, occurring in 1702, followed in 1709 by one of much greater severity and wider area. The disease appeared again in a rather mild form in 1712, and this was succeeded in 1729–30 by one of the severest epidemics that have ever been noted. The affection appeared first in Sweden in the fall of 1729, and spread thence like a hurricane throughout all of Europe, reaching Iceland in March of the following year, and Mexico by way of Spain about the same time. Wherever the disease made its appearance almost all the inhabitants of the place were attacked; in Luzerne, for example, hardly any one escaped, in Geneva two thousand persons were suffering from it at one time, and in Moscow entire households were prostrated at once. The disease was not very fatal, but it had some illustrious victims, Pope Benedict XIII. being one of these. Another epidemic of very wide extent occurred in 1732–33, the entire world being visited by it, and for five or six years after this there were numerous outbreaks in one country or the other, climatic or other influences seeming to favor the continued elaboration of the poison. Huxham studied the disease carefully at this time, and he noted that its outbreak was preceded by an epidemic of the epizoötic among horses.

In 1742–43 appeared another epidemic of considerable extent, which was also preceded, in England, at least, by the epizoötic among horses and cattle. It was at this time that the name "la grippe" was first given to the disease in France. The visitation of 1757–58 was peculiar in that the disease appeared first in this country, spreading thence to the West Indies, and reaching Paris in June of the following year, though its prevalence in Poland had been noted several months before. The epidemic of 1761–62 also arose in North America, and took the same course, first to the West Indies and then to Europe.

The years 1767, 1772, 1775–76, 1780, and 1781–82 were marked by epidemics of influenza of varying intensity, the latter being one of considerable virulence. It began in China in the fall of 1781, arrived at St. Petersburg by way of Siberia in December of the same year,

[1] Influenza: eine geschichtliche und klinische Studie, von Dr. A. Ch. Kusnzow und Dr. F. L. Herrmann, Charkow. Nach den Russischen bearbeitet von Dr. Jos. V. Drozda. Wien: Verlag von Josef Safár, 1890.

and spread thence in a southwesterly direction throughout Europe. The disease was peculiar in that it would pass by some places entirely, while it raged with extraordinary severity in some neighboring localito. When it had once entered a town it would seize upon almost the entire population within a very brief period. Thus forty thousand persons were attacked in one day in St. Petersburg; in Vienna and Munich three-fourths of the population were attacked, in Rome two-thirds, and in Königsberg so many of the inhabitants were sick with the disease that all business was suspended. Three more epidemics were recorded during this century, namely in 1758, 1790, and 1798, the last two being confined to America.

The series of influenza epidemics of the present century begins with one of long duration, though of not very large extent. The disease was confined for the greater part to the northeastern portion of Europe, where it remained persistently for several years, spreading finally to China, Western Europe, and even to Brazil. The years 1807, 1811, and 1815–16 were marked by epidemics in America. The last one was of very mild character at first, the only deaths recorded being of the aged, but suddenly, and without apparent cause, it assumed a malignant form, the fatal termination coming often within eight hours after the onset of the disease. A notable epidemic was that of 1824–27, which spread over the entire continent of America, and ended in Asia and eastern Russia. One of the most extensive epidemics that have ever been seen, resembling in its wide spread prevalence, though we may hope not in its duration, the one through which we are now passing, was that which raged from 1829 to 1833. It was first heard of in China in the winter of 1829–30, and in September, 1830, made its appearance in Manilla, spreading through Borneo, Sumatra, Java, and all the regions in that part of the world. In January following it appeared in Russia, and during the following spring and summer attacked Northern and Western Europe, reaching North America in November, 1831. In January, 1832, it raged for a time in Spain, and then went back to America, attacking the West India Islands with especial severity. In the beginning of the year 1833 it appeared again in Russia, and worked itself out during the following summer in Southern and Middle Europe, where it was accompanied closely by the epizoötic. The number of sufferers from the disease was very large, reaching in some places one-third or one-quarter of the entire population. The mortality was also heavy, about one-seventh of the cases terminating fatally. In 1836–37 was another epidemic, which appeared first in Australia, then in Java, India, the Cape of Good Hope, and reached Europe within two or three months. The disease was particularly severe in England, where its mortality reached a high figure. Other epidemic years were 1850, 1852, 1855–58, 1860, 1863–64, 1866–67, 1870–71, and 1874–75. The latter, as will be remembered by most of our readers, was preceded in this country by a remarkably severe epidemic of the epizoötic, traffic in this city being at one time almost suspended by reason of the large number of horses stricken with the disease. The influenza that followed spread with great rapidity over both hemispheres. Since that time there have been several epidemics, but all of them, up to the present, have been of slight extent and of very mild character.

BEAUTY AS A MEANS OF HEALTH.

Before one of the New York Working Girls' Clubs, Dr. Louise Fiske Bryson recently gave an address upon this subject, reversing in more ways than one the usual order of copy-book aphorism. While acknowledging the impossibility of any protracted happiness without virtue, and the maintenance of beauty's fine edge without goodness, the doctor affirmed that systematic efforts to be beautiful will insure a fair degree of health, and that happiness is the best safeguard against vice. The difference in appearance between one woman and another, it was stated, is more than anything else an affair of style; that beauty of beauties so hard to define and so easy to recognize, which makes the girl of no-colored hair, features of indifferent turn, and lines none too perfect, infinitely more attractive than other maids of faultless curves and innumerable strong points not cemented by this magic quality. Style may be defined, for want of something better to express it, as an attractive manner of holding the body, a firm, graceful way of doing things, and of moving about. It is the visible sign of inherent power and reserve force. It is the outcome of long, deep breaths and the use of many muscles. The prayer of the New York child, "Lord, make us very stylish," when viewed aright, is recognized as an aspiration based upon sound scientific principles and worthy of universal commendation.

Proper breathing is the first art to cultivate in the pursuit of beauty. The lungs have their own muscular power, and this should be exercised. The chest must be enlarged by full, deep breathing, and not by muscular action from without. Inflate the lungs upward and outward, as if the inflation were about to lift the body off the ground Hold the shoulders on a line with the hips, and stand so that the lips, chin, chest, and toes come upon one line, the feet being turned out at an angle of sixty degrees. It is wrong to make the bony structure do most of the work in keeping the body upright. The muscles should hold it in position. In walking, keep face and chest well over the advanced foot, and cultivate a free, firm, easy gait, without hard or jarring movements. It is impossible to stand or breathe aright if the feet are pinched. When correct posture and breathing are interfered with the circulation is impeded, and deleterious substances in the blood tend to make the complexion bad. This is one of the many evils of tight shoes. To be well shod has a marked influence on style. The feet symbolize the body in their way as much as the hands. A clever shoemaker says that in a well-fitting shoe the human foot feels like a duck's foot in the mud. It is held firmly in place, but nowhere compressed. Nothing can exceed the vulgarity and hygienic wickedness of a shoe that is manifestly too tight. For misery-producing power, hygienically as well as spiritually speaking, perhaps tight boots are without a rival Next to the search for style pure and simple as a means of health, the care of the complexion and the cultivation of the right kind of expression are of great importance. The first is largely a matter of bathing and the general hygiene of the skin, while the second—a good expression—is best secured by the constant preference of higher thoughts over lower ones. This is the essence of intellectual living, and is fortunately within reach of us all.

Beauty that is lasting and really worth while, is more or less dependendent upon a good circulation; while a good circulation is made possible by correct pose, proper breathing, and the judicious care of the skin, something else is also necessary to insure the normal quality and activity of the blood. And this something consists in a combination of sunshine and exercise in the open air. Town-dwellers have too little of these blessings, partly from circumstances and partly from lack of wit. Exercise is the most important natural tonic of the body. Without it there can be no large, compact muscular frame. It is as essential to physical development as air is to life, and an imperative necessity in the maintenance of beauty. To keep the complexion and spirits good, to preserve grace, strength, and ability of motion, there is no gymnasium so valuable as the daily round of housework, no exercises more beneficent in their results than sweeping, dusting, making beds, washing dishes, and the polishing of brass and silver. One year of such muscular effort within doors, together with regular exercise in the open air, will do more for a woman's complexion than all the lotions and pomades that ever were invented. Perhaps the reason why housework does so much more for women than games, is the fact that exercise which is immediately productive cheers the spirit. It gives women the courage to go on with living, and makes things seem really worth while.

In a general way the great secrets of beauty, and therefore of health, may be summed up as follows: Moderation in eating and drinking; short hours of labor and study; regularity in exercise, relaxation, and rest; cleanliness; equanimity of temper, and equality of temperature. To be as good-looking as possible, and to be physically well, one must in general be happy. And to be happy it is necessary to carry out ideas of personal taste and preference, as many of them as can be put into definite form without infringing upon the rights of others. Happiness has a distinct æsthetic and hygienic value. In itself it will secure perfect poise and respiration. To be happy is a duty just as style is a duty, and both are in great measure an affair of intellect and management. The old order put the cart before the horse; it said: "Be virtuous and you will be happy," a rule with many exceptions. But the old order changeth. And the modern gospel postulates happiness and material prosperity as the basis of morality. Other times, other manners. The ardent pursuit of good looks sums up the best there is in hygiene, and becomes a legitimate and praiseworthy means of health. The world has yet room for two or three truths, of which not the least is the fact that the definite desire for personal beauty—which was in the beginning, is now, and ever shall be—constitutes in itself a perfectly proper and meritorious inspiration to effort, especially in a country where the shades of Puritanism linger as a sad inheritance, and where disinterred Buddhism claims too often the frail neurasthenic for its own.

ANTHROPOLOGY AMONG VILLAGE PEOPLE.

They do remarkable things in little towns. Our readers may not know that there is a new university, the "Clark University," in Worcester, Mass., with quite a number of mostly young workers and teachers who have the ambition of enriching science with new facts, and thereby adding to their own reputation and that of the institution. One of them is Dr. Franz Boas, well known in this country and in Europe for his geographical and anthropological writings. For the Canadian Government and our own he has been among the Indians of the far Northwest, after having sojourned among the Esquimaux of Baffin's land several years. This man had the courage lately of applying to the Board of Education in Worcester for permission to take measurements on school children, on the same principles and for the same reasons which guided our own Bowditch thirty years ago, Quetelet in Belgium, Virchow in Germany, and so many others. The Board of Education readily granted the permission, but one of the newspapers got convulsed with fright, warned the public, appealed to the children, proclaimed the Clark University people vivisectionists, who alternated between living children and dead cats; described poor Dr. Boas as a monster, a duellist, a fiend; published letters from villagers who threatened his life with shot-guns; called their Board of Education names for allowing "Fanny's nose" to be measured; scared President Hall into actual fear and pretended indifference about the whole matter, and proved that Worcester is no place for an institution of learning. Meanwhile a number of private schools have readily opened their doors to Dr. Boas; but the latest reports are that the morals of the Worcester paper are yet at boiling-point, and further subscriptions are welcome.

A BILL AFFECTING THE STATE BOARD OF EXAMINERS.

The *Buffalo Medical and Surgical Journal* calls attention to a bill which has been introduced into both branches of the State Legislature, and which, if passed, will entirely nullify the present law regarding the State Board of Medical Examiners. The bill confers upon the faculties of Cornell University, Columbia College, Union University, the University of the City of New York, the University of Syracuse, the University of Rochester, Niagara University, and Colgate University, the power to nominate an Examining Board to consist of fourteen members. This Board will have the power of granting licenses, and, in effect, it will restore in a measure to the faculties of the medical colleges that licensing power which the present law takes away.

The Medical Society of the County of Erie has condemned the bill, as have also the Medical Faculties of the University of Buffalo and the Niagara University.

ACTIVITY IN MEDICAL LEGISLATION.

The activity of the various Legislatures of the United States regarding medical and sanitary subjects is just now very extraordinary and interesting. It would hardly seem possible a few years ago that there could be so many things relating to the medical profession upon which one could legislate.

A passion for "regulating" everything has seized upon our law-makers. The Missouri Legislature, for example, wants to limit doctors' fees to fifty cents and a dollar, the California Legislature wants to regulate un-

dertakers and embalming, and the Illinois Legislature wants to regulate coroners' juries.

Other legislatures are proposing to regulate dentists, veterinarians, and tobacconists; while Arkansas wants to revoke the license of those doctors who do not behave themselves.

Missouri is proposing again to try the plan of regulating prostitution.

The attempts to secure laws providing for State Boards of Health are going on bravely. Bills have been introduced into the legislatures of Texas, Michigan, Nebraska, Pennsylvania, Rhode Island, Massachusetts, and, we believe, several other States. These bills have various degrees of excellence, but, on the whole, their tendency is good.

The same may be said of most of the attempts at legislation upon medical and sanitary matters. They show an increased interest in State medicine, a branch of human knowledge which has been too long neglected.

THE STATE BOARD OF MEDICAL EXAMINERS.

As we have not at any time consented or desired to be a candidate for the position of State Medical Examiner, our motives will not be misunderstood when we express some disappointment at the selection of examiners made by the State Board of Regents. We have nothing to say against the character or attainments of the gentlemen from Fredonia, Gloversville, Elmira, and other metropolitan centres. They are, doubtless, good men, but, with two or three exceptions, they are neither well-known nor representative.

Apart from this, however, we find that New York City, which contains more than two-thirds of the physicians of the State (2,265 out of 3,161), and which teaches and graduates more than four-fifths of the students, has no medical representative whatever.

Such apparent injustice is disappointing to the friends and promoters of medical reform, so many of whom reside in this city.

It is not at all surprising that a bill has been introduced setting aside the present law and providing for the appointment of medical examiners from the faculties of the various medical colleges of the State.

IMMIGRATION AND DISEASE.

Medical men, who see in this city such a mass of disease, filth, and utter unwholesomeness among the immigrants sloughed off upon us by Europe, will rejoice to learn that under the new laws there is some prospect of keeping out much of this injurious element.

Already, in conformance with the provisions of the new immigration law, which became operative April 1st, nineteen Italians, brought over on April 3d, were ordered to be returned to the ports whence they came. Four were debarred from landing on account of consumption, which is classed by the new law as a dangerous and contagious disease; eleven by reason of loathsome diseases, and the others are adjudged as likely to become public charges.

The new law requires a medical examination of each immigrant. The surgeons of the Marine Hospital are, we believe, engaged in the laborious and not very agreeable duty of making these examinations. If the Marine Hospital Service succeeds, however, in keeping out diseased and imbecile immigrants it will deserve well of the country.

News of the Week.

In the Missouri State Legislature a bill has passed the House requiring of medical students three years of study, three full courses of six months each, and a preliminary examination before matriculation is allowed.

Private Hospitals.—We commented some time ago upon the steady increase of these institutions in our cities. *The Weekly Medical Review* announces that three new private hospitals will soon be opened in St. Louis.

The New York State Medical Library.—The following circular letter, issued by the Legislative Committee of the Medical Society of the State of New York, explains itself: "Dear Doctor: At the last meeting of the New York State Medical Society a resolution, introduced by Dr. S. B. Ward, of Albany, was unanimously carried, urging the Legislature to take steps toward establishing a State Medical Library in connection with the General Library. In keeping with this resolution a bill has been introduced in the Senate by Mr. Sheard, and in the House by Dr. R. P. Bush (known as Assembly Bill, No. 926), making an appropriation of five thousand dollars annually and an additional appropriation of five thousand dollars for setting apart suitable quarters, building shelves, binding, etc., for the purpose of the above resolution. The consummation of this plan will be of vast benefit to the physicians of the State, as it is intended to keep on file all the important medical exchanges, to purchase all scientific books relating to medicine, and to send catalogues to the profession generally, in order that they may obtain, for a limited time, any volume on the shelves of the Library, on application, by paying the carrying charges. In order that this bill may become a law, a united effort on the part of the profession is essential. The session is about drawing to a close, and any work in behalf of this measure must be done at once. Will you kindly, therefore, personally solicit your Senator or Member of Assembly to advocate the passage of this bill, and if a personal interview is impossible, will you write them at once, urging favorable consideration of the measure? Very respectfully, D. B. St. John Roosa, Daniel Lewis, Maurice J. Lewi, *Committee on Legislation*, 71 Lancaster St., Albany, N. Y." We notice that an appropriation bill recently introduced provides $5,000, for connecting the Medical Library and the State Library. We trust it will not be stricken out.

Medical College Commencements.—Ensworth Medical College has graduated a class of twenty-three. The Northwestern Medical College of Toledo, O., has graduated a class of eighteen. The Medical Department of the University of Buffalo held its Annual Commencement on March 24th, and graduated a medical class of seventy, and a pharmacy class of thirteen.

Women and Coroners' Juries.—A bill has been introduced in the Illinois Legislature providing that women only shall sit as members of coroners' juries in inquests upon dead women.

Dr. Ransom Dexter, of Chicago, a surgeon of wide reputation, died at Chicago on April 2d.

The New York Medical Examiner is the title of a new monthly devoted to the interests of the practitioner in his relations as examiner. It is edited by Dr. G. W. Wells.

The Financial Value of Medical Examinations.—Physicians of this country are paid annually nearly a million and a half dollars for medical examinations for life insurance companies. Three companies pay over one-quarter of a million each.

The American View of It.—Our English contemporaries appear to be anxious that the medical profession shall be represented in the House of Lords. We trust, however, that no action will be taken to lower the present high standing of the British physician.—*Times and Register.*

The State Board of Health of Missouri has come out successful in a suit brought against it by an advertising quack. The Board refused the said quack a license on the ground of unprofessional and dishonorable conduct in the habitual publication of advertisements which in the opinion of the board tended, and were designed, to mislead and deceive the public, and impose upon sick and credulous persons by impossible claims of the treatment of diseases, and for the further reason that he was then engaged in the practise of medicine without a certificate and in defiance of the law. The court sustained the action of the Board.

The Virchow Celebration.—It is proposed to present a gold medal to Professor Rudolph Virchow on his seventieth birthday, which will take place on October 13th next. A fund is now being raised for the making of this medal, and the surplus, which, it is hoped, will be of good proportions, is to be handed over to Professor Virchow for the furtherance, subject to his decision, of scientific work.

Scarcity of Cod-Liver Oil.—It is likely there will be a cod-liver oil famine during the coming year. The number of fish taken in Norway this season has not been more than one-eighth of the average quantity, and the oil, which could be bought last year at $10 per barrel, now costs $40.

Fairfield County (Conn.) Medical Association.—The Ninety-ninth Annual Meeting of this Society will be held in Bridgeport, on Tuesday, April 14. Papers will be read on "Spinal Affections of Adolescence," "Inoculations with Koch's Tuberculin," and "Treatment of Pneumonia."

Dr. H. Willis, of Islip, L. I., died on April 1st, of pneumonia. He was born in England, and was fifty-eight years of age.

The House of Lords and the Medical Profession.—Colonel Fitzgerald has commented on the conspicuous absence from the Upper House of representatives of the medical profession. *The Lancet* says that the defect is an absurd one, and the minister who has the courage to remove it will deserve well of the public, and of the House of Lords.

Tubes for Tuberculin.—An order has been placed with a German firm of glass manufacturers for one million tubes of particular form and extra quality of glass, to be used for the general distribution of Koch's lymph.

Dr. James C. Healey, died in Albany on March 31st of pulmonary phthisis, aggravated by influenza. He was a graduate of the Albany Medical College, and was at one time the county physician.

A Treatment of Epistaxis.—Mr. Jonathan Hutchinson has made a note of a treatment of epistaxis which he avers has never failed of success in his hands, and he has had many very rebellious cases. It consists in plunging the patient's feet and hands into water as hot as can be borne.

Consumptive Immigrants not Allowed to Land.—Four Italian immigrants, who were found to be suffering from pulmonary tuberculosis, were recently returned by the Barge Office authorities to the vessel in which they arrived. The reason given for their return was that they were suffering from a "dangerous, contagious disease," which the new law ranks with pauperism and contract labor as barring admission to the country. Subjects of "loathsome disease" are also excluded, under the provisions of the same law, and therefore eleven cases of plica polonica were sent back.

Typhus Fever in Bellevue Hospital.—A male patient was admitted to Bellevue Hospital on Thursday, April 2d, supposed to be suffering from influenza. The symptoms, however, rapidly developed into high fever and delirium but it was impossible to make a diagnosis until just before death, when the temperature reached a characteristic high range, 106° F., and petechiæ appeared on the lower extremities. Active delirium continued until the end, on the Sunday following, when the temperature reached 108⅕° F. The autopsy was made by Drs. Herman Biggs and J. S. Ely. The brain was congested and there was slight œdema of the pia arachnoid. The lungs were densely congested throughout, as were also the intestines, with slight pigmentation of Peyer's patches. The liver showed considerable parenchymatous degeneration with general congestion, with the same pathological conditions in the kidneys. The heart was soft and flabby and its cavities were filled with dark, fluid blood. Considerable albumin was discovered in the urine during later days of illness, but urinary secretion was free. Petechial spots were scattered over the thighs, a few being found on the arms and trunk. Every precaution has been taken by the Health Department to prevent the spread of the disease. Typhus fever is exceedingly rare in this city, but twenty cases having been reported during the past five years, all of them originating elsewhere, and none of them propagating the malady.

Yellow Fever in Para.—The United States consul in Para reports that yellow fever has been very prevalent among recently arrived persons in that port during the month of January.

Dr. Charles Reyher, one of the most successful surgeons in St. Petersburg, died recently in Finland in consequence of an injury received while hunting. He was born in Riga in 1846, and was graduated in medicine from the University of Dorpat in 1872. He served in the Turco-Russian war, and settled in St. Petersburg in 1878, where his superior abilities soon won for him a large practice.

Dr. John P. Garrish died on April 3d at his residence in this city. He was born in New Brunswick, N. J., and was graduated from the Jefferson Medical College in 1836, and began the practice of medicine in the office of Dr. George McClelland of Philadelphia. He came to New York in 1840 and opened an office in White Street. He was one of the early members of the New York Academy of Medicine. His death was caused by cardiac and renal disease.

Dr. Avery Cook, the senior member of the Orange County Medical Society, died at his home at Otisville, N. Y., on March 30, aged eighty-three years and eleven months. He was born at Belchertown, Mass. Came to New York State in 1827, and began the study of medicine with the late Dr. Silas Loomis of Otisville. He completed his studies in 1834, when he was graduated from the Fairfield Medical College. He immediately entered upon a professional practice at Otisville, which he continued for fifty-six years. He married a daughter of Dr. Loomis, who died about a year ago, aged eighty years.

A Marine Hospital for Philadelphia.—Surgeon-General Hamilton, of the Marine Hospital Service, has been investigating the care given to sick sailors in Philadelphia, and advises that a hospital be constructed for their reception. Sick sailors were formerly attended to by the German Hospital for seventy-five cents a day, but the Jefferson Hospital secured the contract a year ago by agreeing to give medical care for one cent a head below the rate then paid.

A Room for Sick Nurses, called the "Mrs. Harry Ingersoll Endowed Room of the Nurses' Beneficial Association," has been established in the new Polyclinic Hospital in Philadelphia. The room has been endowed by the lady whose name it bears, and was opened for inspection and use on Thursday, April 2d, on the occasion of the formal opening of the new building of the Polyclinic.

Transactions of the Tenth International Congress.—It is announced that the first volume of the Transactions of the Tenth International Medical Congress is now ready for distribution among the members and associates. Personal application may be made at the office, Jerusalem Strasse 38, Berlin, S.W., or those who desire that their copy should be forwarded by post are requested to intimate this to A. Hirschwald, publisher, Berlin, transmitting the postage for the volume, which for the German kingdom and Austria-Hungary amounts to 30 pfennigs, and for foreign countries 90 pfennigs (about 10½*d.*) Due notice will be given of the publication of the sectional proceedings.

Paris Practitioners.—The number of medical men practising in Paris is stated to be 2,200, which, with a population estimated at 2,300,000, is equal to about 1–1,000.

Gynecological Differences.—*The Lancet* laments the difference of opinion among gynecological specialists: "One authority says it is quite easy to define an ovary—another not so. One says serious disease of the appendages is attended with menorrhagia, another with amenorrhœa. One sees danger in flushing the peritoneum, another does it almost daily; one says drainage should be abolished, another that it is most valuable. More than this, the teaching of experts as to errors in the organs of reproduction has undergone a wholesale change within a very few years, and the incidence of blame has been transferred largely from the uterus to its appendages. There is yet no guarantee that we shall not have other equally great changes announced."

The Sale of Professor Koch's Lymph.—The following official rescript has appeared: "Professor Dr. Koch has published in the *German Medical Gazette* of January 15th last, a description of the manner in which the lymph, discovered by him for the cure of tuberculosis, is prepared, and according to this description it appears that this remedy comes within the provisions of Section 1 of the Imperial ordinance of January 27th, of last year, and can therefore, with the exception of wholesale trade, only be sold by licensed chemists (apothecaries). Chemists can at present obtain the lymph, prepared under the personal supervision of the inventor, only through his authorized representative, Dr. Libbertz, 28, Lüneburgerstrasse, Berlin, N. W. It is supplied to them in special bottles of a capacity of 1 or 5 c.c. These bottles have glass stoppers covered with bladder and secured by a leaden seal, bearing the letter 'L.' On one side they bear the name 'Tuberculinum Kochii' in white letters on a black ground, on the other side a white label with the signature of Dr. Libbertz, and a note giving the date on which the lymph was prepared. Each bottle is accompanied by a printed paper containing instructions for its use. With regard to the preservation and sale of the remedy in chemists' shops, the following regulations must be observed: 1. The 'Tuberculinum Kochii' must be kept in the poison cupboard, and in the division reserved for alkaloids. 2. It can only be sold in the original bottles, and only upon the written order of an approved physician, and delivered to such physician himself or to a person authorized by him. 3. A record of the purchase and sale of the remedy must be kept in a special book, in which each bottle must be entered. The contents of the bottle, the date of preparation, of purchase and of sale, the name of the physician to whom it has been sold, or eventually, the removal of the unsold bottle from the shop, must all be noted. 4. If a bottle has not been sold within six months of the date of preparation marked upon it, it can no longer be sold or otherwise disposed of, but must be removed from the shop. Such bottles will be exchanged by Dr. Libbertz for others containing freshly prepared lymph free of charge. 5. The price of the 'Tuberculinum Kochii' is hereby fixed (exclusive of the cost of packing) at 6 marks for a bottle containing 1 c.c., and at 25 marks for one containing 5 c.c. I have the honor to request you to cause the above regulations to be communicated to the chemists in your district for their guidance, and also to take steps to insure their due observance.

"(Signed) DR. VON GOSSLER.

"BERLIN, March 1, 1891."

What Shall be Done for a Cold in the Head?—It may not be always possible to break up a cold. Sometimes during the congestive stage, anything which will allay irritation will suffice. The person who feels a cold coming on should instantly betake himself to bed, drink a cup of hot ginger-tea, and make use of a snuff like that which was proposed several years ago by Dr. Ferrier:

℞. Morph. sulph..... gr. j.
Bismuth subnit..... ʒ iij.
Pulv. acaciæ..... ʒ i.
M.

The insufflation of a little morphine at the commencement of a cold in the head is sometimes attended with very happy results. Quinine as an abortant in commencing cold is much in use; the dose should be somewhat large; Dr. T. J. Maclagan says ten grains. Its efficiency is, however, rather problematical. Doubtless, menthol is one of the best local applications in the early stages of a coryza. It may be used in the form of an ointment (menthol one part, vaseline thirty parts), or as a spray with liquid albolene. A formula which may do good service is the following: menthol, one part, liquid albolene, thirty parts. A special spray atomizer, such as is sold by all the instrument makers, is needed for the effective use of this combination. Menthol seems to limit congestion to the mucous membrane; it is often followed by a profuse flow of nasal mucus, with little sneezing. Breathing through the nose and mouth the steam of hot camphor water, and the internal use of carbonate of ammonia, are also recommended, and there is often utility in the production of active diaphoresis. Many of late years have claimed decided benefit from full doses of antipyrin, acetanilid, phenacetin, in the onset of colds; and, doubtless, these new remedies are more and more taking the place of the depressant diaphoretics. —*Boston Medical and Surgical Journal.*

University of the City of New York.—The annual commencement of the Medical Department of the University of the City of New York was held at the Metropolitan Opera House on Tuesday evening, March 24th, and at the same time the fiftieth anniversary of the school was celebrated. The principal address of the evening was made by the Rev. Dr. Henry Van Dyke. There was a graduating class of 203, and the valedictorian was Francis S. Kennedy.

Dr. Edward W. Crater, a physician widely known in Central New Jersey, died at his home at Oceanport, N. J., March 29th, aged thirty-two.

Regulating the Practice of Medicine in Massachusetts.—A bill bearing on this subject has been introduced into the House of Representatives. No medical board of examiners is created, nor medical society authorized to give permission to practise, the bill simply requiring that any one who intends to practise medicine shall appear before a city or town clerk, and describe, among other facts, his degree, or, if he have no degree, what preparation or experience he has had in medicine. The register is to be open to public inspection, and a list of persons so registered is to be published annually by the State Board of Health. A fine is to be imposed on all who practise medicine without registration.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from March 29, 1891, to April 4, 1891.

HOFF, J. VAN R., Captain and Assistant Surgeon. The leave of absence granted in Orders No. 61, c. s., Fort Riley, Kan., is extended twenty-three days. S. O. 36, par. 3. Department of the Missouri, March 27, 1891.

GIRARD, JOSEPH B., Major and Surgeon. By direction of the Acting Secretary of War, relieved from duty at Fort Lowell, Ariz., to take effect upon the withdrawal of the troops from that post, and to report in person to the commanding officer at Alcatraz Island, Cal., for duty at that station, reporting by letter to the Commanding General, Department of California. S. O. 70, par. 5, Headquarters of the Army, A. G. O., Washington, D. C., March 28, 1891.

BURTON, HENRY G., Captain and Assistant Surgeon, now at San Diego, Cal., on sick leave of absence, is relieved from further duty at Vancouver Barracks, Wash., and will report in person to the commanding officer at San Diego Barracks, Cal., for duty at that post, relieving Major David L. Huntington, Surgeon, and reporting by letter to the Commanding General, Department of Arizona. S. O. 71, par. 5, Headquarters of the Army, A. G. O., Washington, D. C., March 30, 1891.

HUNTINGTON, DAVID L., Major and Surgeon. On being relieved by Captain Henry G. Burton, Assistant Surgeon, from duty at San Diego Barracks, Cal., to report in person to the commanding officer at St. Francis Barracks, St. Augustine, Fla., for duty at that post reporting by letter to the Commanding General, Division of the Atlantic. S. O. 71, par. 5, Headquarters of the Army, A. G. O., Washington, D. C., March 30, 1891.

By direction of the President, the following-named officers are detailed for duty under the Inter-continental Railway Commission, appointed under a provision in the Act of Congress approved July 14, 1890, for the purpose of making "a preliminary survey for information in respect of a continental railway, recommended by the International American Conference," and they will report in person to the Commission in this city, accordingly: Captain EDGAR L. STEEVER, Third Cavalry; First Lieutenant STEPHEN M. FOOTE, Fourth Artillery; First Lieutenant LYMAN W. V. KENNON, Sixth Cavalry; First Lieutenant ANDREW S. ROWAN, Ninth Infantry; Second Lieutenant SAMUEL REBER, Fourth Cavalry; Second Lieutenant CHARLES A. WEDEKIN, Third Cavalry. Captain WILLIAM C. SHANNON, Assistant Surgeon, for duty as medical officer of the party to which he may be attached. S. O. 73, par. 9, Headquarters of the Army, A. G. O., Washington, D. C., April 1, 1891.

Official List of Changes in the Medical Corps of the United States Navy for the week ending April 4, 1891.

STEPHENSON, F. B., Surgeon. Ordered to the Marion.

BERRYHILL, T. B., Passed Assistant Surgeon. Ordered to the Marion.

WHITE, C. H., Medical Inspector. Ordered to the Baltimore.

CLARK, J. H., Medical Inspector. Ordered to the San Francisco.

HOEHLING, A. A., Medical Inspector. Detached from President of Naval Examining Board.

CRANDALL, RAND P., Assistant Surgeon. Promoted to Passed Assistant Surgeon, February 27, 1891.

BROWNELL, CARL DEWOLF, of Bristol, R. I. Commissioned an Assistant Surgeon, April 1, 1891.

Society Reports.

THE PRACTITIONERS' SOCIETY OF NEW YORK.

Stated Meeting, February 6, 1891.

GEORGE L. PEABODY, M.D., PRESIDENT, IN THE CHAIR.

Respiratory Movements and the Anatomy of the Thorax; A Report of Recent Studies.—DR. J. WEST ROOSEVELT read a paper with the above title.

The writer referred to the paper read by him before the Society and published in the New York MEDICAL RECORD of May 25, 1889, in which the statement was made that "it cannot be shown that any part of the lung moves, in proportion to its bulk, in respiration, less than any other." He dwelt upon the necessity in any study of respiratory movements, of remembering that not absolute but relative expansion and contraction are to be considered. If one lobe of a lung is in bulk one half as large as another then in order to cause the same degree of tension upon the elastic resistance of both that part of the thorax in contact with the smaller lobe must expand less than that which moves the larger. It is wrong to assume that if the upper ribs move less than the lower the apices for this reason are at any mechanical disadvantage as compared with the lower portions of the lungs. The question is not how much do the ribs move? but "how much do they affect the underlying lung, and how much is the latter expanded relatively to its bulk." He mentioned some of the conflicting statements made by various authors who attempted to explain the frequency of tubercular disease in the upper lobes, by theories based upon inhalation of tuberculous dust, defective nutrition, or the alleged insufficient expiratory movements of the parts which prevented them from expelling bronchial secretion and indeed, according to some writers, even permitted the lower lobes to force mucus, etc., into the upper, especially during cough ing.

The thoracic (female) type of respiration and the abdominal (male) type must not be forgotten by those who advance theories about pulmonary disease which are based upon any assumed difference between the relative or absolute motion in the upper or lower lobes.

The difficulty of obtaining trustworthy information in regard to the effect of dress upon respiratory movements, particularly among savage races, was mentioned. Naturally it is not important when considering the possible relation of chest movements to pulmonary disease, whether the difference between the male and female types in civilized countries results from dress or not. The difference certainly exists and may not be overlooked.

The writer thought that the smaller waists and larger hips of the female were the cause of the greater relative movement of the upper parts of the thorax.

The elastic force of the ribs as an aid to inspiration, pointed out by Powell, is too often overlooked. It serves to reduce the muscular work to a minimum.

If a lung be prepared so that it remains expansible after removal from the body, and if it be distended with air to its normal size, it will be seen that the apex is a rather irregular shaped hemisphere; that the lower portions may be regarded as irregular pyramids having four sides. The fact that two of these sides are convex and that one is concave does not practically make any difference when measuring the increase or diminution of the bulk from the whole pyramid. On watching the expansion and contraction of the lung, it is plain to the eye without measurements that the upper parts move very much less than the lower. It is also plain to the eye that any body of the shape of the upper lobe necessarily contains less lung substance than is contained in the lower. In spite of this its motion seems to be disproportionately small. When we remember, however, that the moving surface is practically a hemisphere, and that every fraction of an inch by which that surface is drawn away from the centre means an increase in bulk of one-half of the cube of that fraction, and that a sphere is a body in which the greatest possible bulk is contained by the smallest surface, it will been seen that the motion is not disproportionately small.

In regard to the lower lobe, its increase in bulk must be accompanied by a very much greater apparent surface motion (because of its pyramidal form). To make positive measurements of increase of bulk, it will be necessary to immerse the lung in a closed chamber with a hole through which a tube passes, connecting with the air outside and the bronchus within. The chamber being filled with liquid, the exact bulk of the collapsed lung can be ascertained. By pumping out a greater or lesser amount of the fluid, the degree of expansion can be absolutely determined. After this has been done for the entire lung, the bronchus communicating with one of its lobes may be plugged over while the lobe is completely collapsed, and then the bulk and the expanse of the unplugged lobe can be ascertained. Of course the actual minus pressure in each case must be noted. If an entire lung expands to a certain bulk under a minus pressure of M, then if the same minus pressure is exerted on either of its lobes, the same degree of expansion of the lobe will take place as took place when the whole lung was acted upon. In this way we can ascertain the bulk of the lung, the bulk of each lobe, and the total expansion of the whole organ, and equally accurately of every part of it.

What may be the effect of the air-currents in causing the deposit of dust in different parts of the lungs, is at present under investigation by the writer. Experiments are as yet too few to be of much value. This much, however, can be said, that so far I have found it absolutely impossible, under positive pressure, to force finely powdered ultramarine blue into the air-vessels, even after an hour's artificial respiration. The powder goes down to the small tubes, but not even to those branches of the bronchi which are nearest to the terminal branches. So far as seen, the powder behaves in exactly the same way one would expect it to do. It is deposited rather thickly along the trachea. If that tube be a long one, when the large bronchi are reached the deposit becomes less thick, but at the place of breaking up of a large bronchus into a number of smaller ones, a very heavy deposit takes place. This means, of course, that at such a place, the air-current becomes very much slower, inasmuch as the friction on the tube walls is greatly increased, and the current is diminished by this, and also by the greater transverse area of each pair of branching tubes, relative to the single tube from which they spring.

(A specimen was shown of a sheep's lung which had been, after removal from the body, made to inhale ultramarine under positive pressure for an hour, and fine pig ment was shown to be deposited in the manner stated.)

Savages as Mouth Breathers.—DR. SAMUEL SEXTON, in referring to the remarks made by Dr. Roosevelt upon the unreliability of certain statements handed down in the books as to the nose breathing of savages, said that he was reminded of certain investigations which he had once made on the truthfulness of the opinion that Indians were remarkably free from aural trouble. He found that, as a matter of fact, an unusual number of those whom he saw had some defect in the ears, and it was also his belief that the habit of savages to teach their children to breathe with the mouth closed had been overstated. Nor did he think mouth-breathing so dangerous as it was once said to be.

DR. DANA inquired whether the inhalation material employed by Dr. Roosevelt was a powder.

DR. ROOSEVELT replied that it was ultramarine blue ground to an extremely fine powder, and blown into the lung while practically dry or free from exudation. He thought, however, that the same laws would apply if the

substance were carried in vapor. He further stated that these experiments having been made under positive pressure, or by blowing into the lung, might give somewhat different results under negative pressure, *i.e.* inhalation or suction.

The Dumb-waiter for Comparison.—Dr. Andrew H. Smith said he had been interested in the remarks of Dr. Roosevelt upon the counter-balancing forces, retractility of the lung and elasticity of the chest wall. It might be compared unto a dumb-waiter, where the retractility of the lung would be represented by the waiter and the elasticity of the chest wall by the counterpoise. He believed that practically the retractility of the lung displayed a force somewhat greater than the elasticity of the chest wall. His reason for so believing was based on the fact that if a stopcock were put into the trachea of an animal which had been killed so that air could not escape and the thorax were then opened the lung would not fall back, but the walls of the thorax would spring out.

With regard to the place of deposit of the powder floating in the air carried into the lung, he thought that would be less likely to return which had entered branches at an angle than that which had entered branches whose axis corresponded to that of the trachea.

Lung Expansion Observed Through a Window.—Dr. W. G. Thompson said he had had occasion to study the expansion of the lung in the dog and other animals through a glass inserted into an opening left by excision of a rib, and as far as those observations were capable of doing so, they had confirmed the statements made by Dr. Roosevelt. They showed proportional expansion of the several parts of the lung. There was more friction between the parts in the dog than in man, due, he supposed, to the larger number of lobes and their overlapping one another during expansion.

Dr. Roosevelt said, with regard to the suggestion made by Dr. Smith, that he did not think the difference in the angle at which the bronchus was given off would have any influence on the relative amount of the powder deposited in different parts if the powder were very fine; it probably would if the powder were heavy.

Variability of Different Specimens of Parataloid.—Dr. Andrew H. Smith related a case bearing on the possible danger of changing from one specimen of the Koch lymph to another on account of variability in strength. He had been treating a patient for incipient phthisis for some time with a specimen of the fluid brought over by Dr. Bailey. He had increased the dose from half a milligramme up to three milligrammes and three quarters. At no time had it caused an elevation of the temperature of more than half a degree Farenheit. Ten inoculations having been given he then changed to another specimen of the fluid sent the Presbyterian Hospital from Koch's laboratory. Having last injected of the first specimen 3.75 milligr., he now injected of the new 4.5 milligr. The reaction was very alarming; the temperature jumped to 104.5 F., the pulse to 140, the chest became filled with mucous râles, there was some degree of cyanosis and great drowsiness. The reaction reached its height in about four hours after its commencement, or twelve hours after the inoculation. The temperature gradually fell to normal within four hours more, and the râles disappeared after twenty-four hours.

The case raised a doubt as to the uniformity of different specimens of the lymph, and considering that the lymph was a product of bacteria he could not understand how it was possible on different occasions always to make it of like strength. How could the number of bacteria or their activity be determined? The product not being chemical, a quantitative analysis was not possible. It would seem as difficult as to determine the peptonizing influence of the stomach of different animals.

The President asked whether the inference might not be drawn that the first specimen which had produced no influence was worthless.

Dr. Smith replied that the first specimen had produced the ordinary reaction in another case. He admitted that it had been diluted ten per cent. when it was given him.

Dr. Biggs said he had had a similar experience, but he believed the dilution of the first specimen had been made before he received it; when he received some undiluted lymph and diluted it himself, he obtained the characteristic reaction, which he had not obtained before.

Dr. Delafield remarked that the lymph would not keep diluted, and was not worth using when it came in that form.

Dr. Smith stated further that while the new lymph reacted somewhat more than the old on the other patient, there was not much difference. But aside from the value of this case, the question arose how was it possible to make different specimens of the lymph of the same efficiency?

The President said he understood the only test of uniformity in the fluid was its influence upon animals.

Dr. Smith doubted the reliability of even such a test, for different animals, like different persons, reacted under its influence differently.

Dr. Roosevelt remarked that if the variation were as great as forty or fifty per cent. it would not be greater than that of some of the tinctures made according to the directions contained in the Pharmacopœia.

Headache from a Cause hitherto Overlooked.—Dr. Samuel Sexton related a case of nocturnal headache due to a cause which he had not hitherto suspected. The patient, a man aged fifty, frequently awoke with pain in the head on the side on which he was lying. Having slight deafness and some subjective aural phenomena, he consulted Dr. Sexton. On examination, intra tympanic aëration on that side was found defective, the drum-head was sunken, and it occurred to him that the pain might be due to inward pressure on the stapes. As the man could not come to his office, he instructed him how to use Politzer's method on going to bed and when he awoke at night. Since he had commenced to thus practise inflation of the ear the headaches had disappeared. So far as he knew, this cause of headache had not before been recognized.

Primary Carcinoma of Lungs.—Dr. George L. Peabody presented a specimen of the above.

J. W. A——, thirty-three years of age, a native of the United States, a stevedore by occupation, entered the New York Hospital on January 10th of this year. He gave no morbid family history. He had never had syphilis, rheumatism, or malaria. He admitted that he indulged in spirituous liquors, but denied any excess.

About ten months previous to admission he had an attack of the "grippe," and this was followed by what was called pleurisy. Ever since then he has had at times pain in the left side and some cough. He was, however, able to be up and about until three weeks before he entered the hospital, when he thinks he caught cold. Since then the cough has been much worse, and has been accompanied by a good deal of mucous expectoration and pain in the left chest. At times the cough has been very violent, and has been followed by vomiting. He has noticed no blood in his expectoration since the attack of grippe. He has occasionally had night-sweats, and has lost much flesh and strength. His appetite is fair; his bowels are constipated. His chief complaints are cough and vomiting. On admission at 4 P.M. his temperature was 98° F., respiration 36, pulse 116.

Physical examination gave the following result: All over left chest, both behind and in front, percussion note is very dull, but nowhere absolutely flat. At the left apex in front, breathing and voice are somewhat exaggerated. Below apex, behind, in axilla, and in front, voice and breathing are very much diminished in intensity, but are everywhere distinctly audible. On right side, at apex, in front, percussion note seems somewhat hyperresonant, expiration is prolonged and high pitched, and voice is exaggerated. No râles are heard on either side.

Heart's area of dulness is normal; a blowing systolic murmur is heard at apex, which is transmitted toward axilla. Heart's action is regular, of fair force, and slightly accelerated. Organs of abdomen, normal so far as physical examination can detect. Tongue is broad, pale, and slightly coated. Radial arteries are somewhat rigid. Patient is pale, somewhat emaciated, but in fair general condition. There is no œdema. Urine is normal, except that its specific gravity is rather high (1027), and that it contains mucus, oxalate of lime crystals, and some pus-cells. He lived only eleven days after coming under observation. His treatment was supporting and symptomatic, including chiefly tonics and food and remedies addressed to his cough. On two occasions his sputa were examined for tubercle bacilli, with negative result. During these eleven days he was greatly troubled by cough, with muco-purulent expectoration, which was abundant and tenacious. Cough interfered greatly with his sleeping, and finally necessitated the use of morphine. He failed steadily, with no change in his physical signs, and died exhausted on January 21st at 9.35 P.M. Once his temperature reached 101° F., but it was rarely as high as 100° F., and normal much of the time.

The autopsy was made eighteen hours after death. The body was emaciated and anæmic. Lungs: On the right side posteriorly, and in the axillary line, were loose old adhesions; on the left side were firm old adhesions everywhere uniting the two pleural surfaces. There was no fluid on either side. In a few of the small branches of the pulmonary artery in the right lung were found hard white thrombi firmly adherent to the walls of vessels. Mucous membrane of bronchi was hyperæmic and covered with muco-pus. In the left lung was found a solid tumor at hilum, lobulated in outline, grayish yellow in color, of firm consistency, and measuring roughly two and three-fourths inches in diameter. It was sharply defined, both by its color and by its consistency, from the surrounding lung tissue. Lung tissue immediately about it was not well aërated. It involved bronchial glands. Beyond tumor bronchial tubes were considerably dilated. The primary bronchus can still be seen to pass through the tumor, its lumen being almost completely obliterated, and its walls being in some places infiltrated with tumor tissue, and in some places wholly made up of that tissue. Centre of tumor was broken down. Remote from tumor and scattered through lung were many small, hard masses varying in size from that of miliary tubercle to half of a small pea, whose color and consistency were exactly like that of the tumor itself. Lung generally felt tougher and less elastic than normal. Heart: Valves were normal; ventricles were dilated. In right ventricle were old, hard, white thrombi beneath and between columnæ corneæ, firmly adherent to endocardium, with softened centres. They were, like those in the pulmonary artery, evidently of ante-mortem formation. Spleen was large, soft, and congested. Kidneys were normal. Liver was normal in size. Centres of acini were atrophic and pigmented; peripheries were anæmic. Stomach, intestine, œsophagus, trachea, larynx, and brain were normal. On microscopic examination the tumor proved to be a carcinoma. In its older portions the alveoli are distinct and large, and filled with shapeless epithelial cells, and the fibrous stroma is abundant.

Multiple Cancellous Exostoses.—Dr. C. L. Dana showed photographs of a case, with the following history: The man, an Italian, aged thirty two, came into Bellevue Hospital suffering from rheumatism and presenting a number of exostoses, about twelve in all, in different parts of the body, mainly in the neighborhood of the epiphyses of the long bones. A very large one was on the sacrum, some were on the hands, etc. He said he had had the trouble since birth, whether others in the family had it could not be learned. The speaker referred to six cases reported by E. J. Maclean, *Bristol Medico Chirurgical Journal*, December, 1890, the patients being related as aunt, father, daughter, and three sons. The speaker's case confirmed the following points made by Maclean: 1. That the exostoses do not all originate from the neighborhood of epiphyses; 2. That in some instances they do originate thus, or from the usual sites of muscular attachment, or from both these positions; 3. That the bones of the face and spinal column (to palpation), the sternum and patellæ, are exempted, and the bones of the head almost so; while the long bones, scapulæ, and ribs are extensively affected; 4. That the pelvis (ilium) is affected (in three of the six cases of Maclean's.

Dr. V. P. Gibney recalled the case of a German who had come under his observation with a number of exostoses. His grandfather had also had similar bony tumors. One of his daughters, aged fourteen or fifteen, had half a dozen. One boy, who was a stupid fellow, had nine exostoses on the long bones, and it was a question whether there might not have been one on the inner surface of the skull. He had since become a confirmed idiot. There was one other child in the family who had one or two small exostoses on the tibia. Dr. Gibney said he happened to see another family thus affected about the same time the one just mentioned came under his observation, some years ago, but he had seen none since. The affection was very rare.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Stated Meeting, February 23, 1891.

Orlando B. Goulas, M.D., President, in the Chair.

Local Therapeutics in Diseases of the Nose and Throat.—Dr. Wendell C. Phillips read a paper with the above title (see p. 422).

Peroxide of Hydrogen as a Disinfectant.—Dr. Paul Gibier, who had been quoted as to the disinfectant qualities of peroxide of hydrogen, said its power was due to the liberation of oxygen, which, under pressure, destroyed all forms of microbes. He was surprised this agent had not come into more general use as a disinfectant, but one reason was, doubtless, the great difficulty of obtaining it pure. Chemists would, probably, by their improved methods, overcome this difficulty.

Dr. James E. Nichols could not agree with the author in advising almost exclusive use of oil solutions in the nasal cavity. They did not come in close contact with the mucous membrane because of the watery osmosis beneath. But he did object, also, to alkaline solutions in hypertrophic rhinitis, as they served to increase the osmosis. While the first feeling after cleanliness was one of relief, reaction soon took place if they were continued. Having performed the necessary surgical operation, and cleansed with an alkaline or neutral solution, afterward use oily preparations. He also employed oily preparations in ozæna or chronic atrophic rhinitis. Carbolic acid in nasal sprays was an irritant, and should not be used. The patient should be cautious in blowing the nose after the use of the spray, etc., lest purulent matter be insufflated into the Eustachian tube and cause otitis media.

Dr. L. A. Coffin said that when a patient with catarrh came to him, he expressed confidence in his ability to benefit him only when he saw something which could be removed surgically. Having removed the apparent cause, he sent the patient home, and unless there were sepsis on his return, he usually did nothing more, and he found that he got much better results than formerly, when continually spraying, wiping, burning, etc. As to oily solutions in preference to the aqueous, it was true the former protected the mucous membrane, but they also thus prevented the mucous membrane from acting upon the inhaled atmosphere, and thus did harm. He had found peroxide of hydrogen a most excellent means to stop hemorrhage after operations. In order to get the plug out, use some cocaine, and it would almost fall out of itself.

Dr. Robert C. Miles thought the differences of opinion expressed were due largely to differences in diagnosis. Speaking of carbolic acid in vaseline, he said its effect was soothing. In hypertrophic rhinitis stimulants or irritants, as menthol and oil of mustard, should be avoided.

Dr. Wilbis, of Toledo, O., believed in the use of the petroleum products, but not all were adapted to the same case. For instance, after an operation he would use products which melted at a high temperature, say at 104° F., as protectives. But if one had a case of vasomotor disturbance, as in hay fever, he would use one of the petroleum products of a lower melting point. In hypertrophic rhinitis he would use one applicable by spray. The continued use of eucalyptol had a hardening influence upon the mucous membrane which lessened the predisposition to take cold, and to be affected by anything irritating.

The President suggested a trial of lanolin, either alone or mixed with vaseline, etc.

Dr. Phillips closed the discussion.

A Year's Report on the Therapeutics of Children's Diseases.—Dr. H. D. Chapin read a paper on this subject.

Experimental Research on Koch's Fluid, with Exhibition of Results of Culture and Effects upon Animals.—Dr. Paul Gibier read a brief paper with this title. He made experiments, first, on the bacillus tuberculosis; second, on animals; third, on three patients. The experiments made on cultures consisted, first, in mixing 1 milligr. with 5 c.c., afterward 1 milligr. with 1 c.c. of mixture of glycerine agar. This proportion of the lymph to the medium culture might seem very large, but it did not prevent the development of the bacilli on the medium culture. His experiments on animals had resulted as in those by Dujardin-Beaumetz, of Paris, and some others. He injected a guinea-pig with human tuberculosis in November. It developed rather slowly. One month afterward he began inoculations with the Koch lymph, and had increased it to 100 milligr., using this amount at different times. After having injected 15 milligr., which produced slight reaction, no further reaction took place. Some tuberculous ulcers developed, which the inoculations seemed to increase instead of decrease. The guinea-pig was in a fair way to die in a few days. The lungs were evidently filled with tubercular infiltrations. He had found that the bacilli of tuberculosis, mixed up with the pure lymph, could still develop after the lapse of twenty-six hours; consequently the lymph had no effect on the bacilli. As to the effects of the lymph on tuberculous patients, he left it for physicians of greater experience to decide.

NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, February 11, 1891.

H. M. Biggs, M.D., President, in the Chair.

Report of a Case of General Tuberculosis, Treated with Koch's Lymph, with Autopsy.—Dr. H. P. Loomis presented such a report. (See the Medical Record for March 7th, p. 282.)

The President said that this report emphasized the fact that the lymph had no power to prevent the development of miliary tuberculosis, nor did it cause any degenerative changes in the tubercular deposits. Several cases had been observed in which tubercular ulcers of the tongue developed in persons while undergoing the Koch treatment.

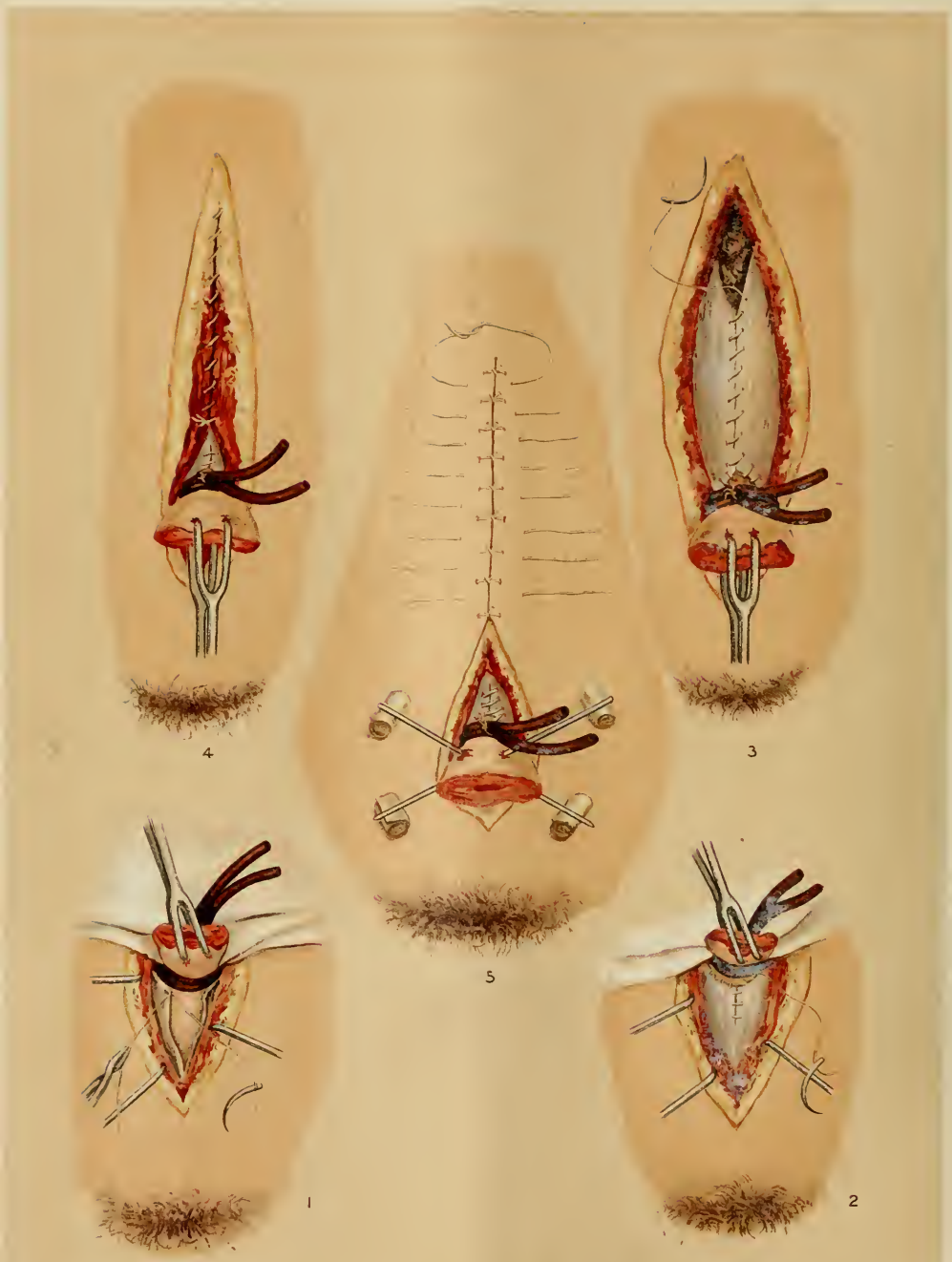
Dr. George C. Freeborn said that he was at present studying the results of an autopsy upon a case of epithelioma of the face which had been treated by these injections. Death occurred about ten days after the last injection, with all the symptoms of intense pulmonary congestion, and the autopsy showed that the lungs were greatly congested, and in addition, contained certain nodules the exact nature of which he had not yet positively determined. The other organs of the body presented the intense hyperæmia to which allusion had been made in the paper.

A Large Fibro-myoma.—Dr. Freeborn presented half of a uterus with a large fibro myoma which had been removed by Dr. Chambers, at the Woman's Hospital, from a married woman, aged thirty-four, who had never had children. The duration of this trouble was four and a half years. The operation performed was supra-pubic hysterectomy, and on making the abdominal incision the bladder was found at the level of the umbilicus, and the ovaries attached to the inner side of the mass. The mass removed was flattened, oval, with an ovoid projection from its superior surface. It weighed in the fresh state 5,270 grm. The vertical circumference was 79 ctm., and the transverse 63 ctm. An antero-posterior section through this mass showed that the large fibro-myoma, measuring 19 × 20 ctm. transversely, sprung from the posterior wall of the uterus, and in the centre of this mass was an area of fibro-cystic degeneration measuring 6 × 11 ctm. In what appeared to be the anterior wall of the uterus was a small myo-fibroma. The interesting feature in the case was the development of this large mass in the posterior wall of the uterus, which, in its rapid growth has pushed up all the pelvic organs. The remaining one-third of the elongated vagina was plainly visible in the specimen.

Dr. Eugene Hodenpyl presented specimens from a case of cirrhosis of the liver occurring in a young man, aged twenty-one, who had been intemperate for many years. He had suffered from dropsy, and had been tapped on several occasions. The autopsy showed a typical "hobnail" liver, with very advanced changes for one of his age. There was also the so-called "fleshy spleen," presenting evidences of chronic interstitial splenitis. The lungs had been somewhat compressed by the fluid in the abdominal cavity. The only evidences of tuberculosis in the body were some cheesy bronchial nodes, which, when stained, showed very few tubercle bacilli. The small intestine, from about the end of the duodenum to within about one foot of the ileo cæcal valve, was intensely congested and almost necrotic, due to a thrombosis of the portal vein, and branches of the superior mesenteric veins. He had noticed thrombi in this locality in several instances, but was unable to offer any explanation of it. In answer to a question from the President as to whether the thrombosis was probably recent, Dr. Hodenpyl said that there was nothing in the history pointing to intestinal trouble except an occasional diarrhœa, and he was of the opinion that this condition developed just before death, and was of no special significance. There were no hemorrhages into the bowel.

A Case of Hemorrhage into the Brain.—Dr. E. D. Fisher presented specimens from a man, aged forty-five, who had been admitted to the hospital as an alcoholic case, being at that time only partially unconscious, and having no paralysis, but on the contrary good muscular power. The pupils were at no time abnormal. He passed rapidly into profound coma, and died within twenty-four hours. At the autopsy, in addition to various contusions on the body and limbs, there were hemorrhages into the occipito-frontalis and left temporal muscles, with fissuring of both tables of the skull, from the occiput on both sides along the parietal region. The brain showed an extensive hemorrhage lying between the dura and the cortex, and a considerable contusion of the brain on the left side, involving the lower portion of the third frontal convolution, and the anterior portion of the temporal, with a portion of the parietal lobe in the region of the fissure of Sylvius.

The case was chiefly of interest as showing how little there was on which to base an accurate diagnosis, and hence the necessary uncertainty as to treatment. He thought the hemorrhage originated from the veins of the



EXTRA PERITONEAL TREATMENT OF THE PEDICLE
AFTER SUPRA-VAGINAL HYSTERECTOMY.

LINDNER, EDDY & CLAUSS, LITH N Y

[TAKEN FROM A TREATISE ON MEDICAL AND SURGICAL GYNÆCOLOGY BY
S. POZZI, M.D., NOW IN PRESS BY WM. WOOD & CO.]

pia, and was not due to any injury to the middle meningeal artery, because the hemorrhage was entirely subdural.

Pachymeningitis Hæmorrhagica.—Dr. Fisher also reported a case of this condition. This man had been brought to the hospital for intoxication, and his speech at that time, though thick, was not incoherent; on attempting to walk, he fell continually toward the left side. The pupils were equal. During the night he became unconscious, œdema of the lungs developed, and he died thirty-six hours after admission. There was no reason to suspect injury. Contrasting the symptoms presented in these two cases, one of marked contusion of the brain, and the other of simple compression, the similarity of the symptoms was remarkable, and even the condition of the pupils failed as an indication of cerebral compression.

In answer to a question as to the relation of the traumatism to the cause of death, Dr. Fisher said that he did not think there was ordinarily much connection between the two, for death occurred too soon after the injury to be due to suppuration or inflammation.

The President said that he had been much impressed with the frequency with which he had met with lesions in the under surface of the frontal, and the temporo-sphenoidal lobes, which may have been due to the injuries received years before. This was just the locality where laceration and contusion almost invariably occur as a result of traumatism, and hence it was the amount of hemorrhage and not the contusion which determined death. The hemorrhage usually came from laceration of the vessels of the cortex.

Dr. W. P. Northrup exhibited a slide showing a transverse section of the dura in a case of chronic pachymeningitis hæmorrhagica interna.

Chronic External Hydrocephalus.—Dr. Northrup said that, although he had seen many cases of ordinary chronic hydrocephalus, this was the first time he had met with the external form, although the text-books did not speak of it as rare. He exhibited a transverse section of the dura. At the time of his death, the child was ten months of age. It had been born after a normal labor, and when about five months of age, it was noticed to have a large head, and to keep the thumb turned into the palm. When admitted to the hospital, on August 25th, it was much emaciated, and the skin was leathery and wrinkled. The temperature was 98.5° F. In September the head began to enlarge very noticeably, the sutures were gaping, and the child grew stupid and fretful. At the autopsy, which was made by Dr. G. S. Lynde, about one pint of fluid of the color of Müller's fluid escaped on opening the skull, and there was a large quantity of old blood-clots over the entire dura, but mostly on the right side posteriorly. On stripping off a thin layer of tissue, the dura was left stained a yellowish color. The brain itself was normal, there being no distention or staining of the ventricles. The section shows pachymeningitis in the dura with the formation of new vessels, and a recent exudate of pus and fibrin. The fibrous layer of the dura was unchanged, and toward the free surface there was a narrow layer of old vessels with a new connective-tissue formation, which near the free margin became converted into a soft, pultaceous layer of pus and fibrin.

Dr. J. S. Thacher exhibited specimens, and reported the results of an autopsy upon a case which several surgeons, in consultation with a well-known neurologist, had diagnosticated as one of cortical inflammatory lesion of the right hemisphere of the brain. The patient was a girl, twelve years of age, who was undeveloped for her age. She had received some injury on the head on November 28th, and two weeks after this she began to suffer from left-side convulsions. At times there was a deviation of the optic axes to the left, and the left pupil was dilated. The temperature was very irregular, rising at times to 105° or 106° F.; the pulse was sometimes very rapid; the respiration was slow. The urine was examined once during life, with negative result; but at the autopsy the urine which was in the bladder contained much albumin and casts. The patient was subjected to the operation of trephining, and died about one hour after the operation.

It was interesting to note that the line drawn upon the scalp before the operation to determine the position of the fissure of Rolando, exactly corresponded with this fissure. No lesion of the brain could be found except that made at the time of the operation. The drainage-tube had pierced the right hemisphere and the right ventricle, and reached about one-quarter of an inch into its floor, piercing the caudate nucleus. The left ventricle of the heart was found hypertrophied. One kidney was small, irregular, and nodular, with patches looking like scar tissue; the cortex was somewhat thickened, and the markings were pale and indistinct. The other kidney was enlarged, and presented otherwise much the same appearance. The uterus was extremely small for a child of that age.

Dr. Thacher said that he had met with three other similar autopsies, in which no brain lesion could be found. In one, diabetes was the only cause of death found; in the second, there was possibly enough syphilitic disease of the blood-vessels to account for the cerebral symptoms; and in the third, that of a pistol-shot wound over the right eye, in which the surgeon had trephined at the back of the skull without finding the bullet, the autopsy showed that the bullet was lodged under the orbital plate of the frontal bone, and not in the brain.

Dr. Thacher also presented the brain from a man who had been run over and killed. The specimen showed atrophy of the pyramidal tract secondary to a lesion of the right hemisphere. There was apparently an old spot of softening involving the middle of the internal capsule, and the adjacent part of the lenticular nucleus. The degeneration of the pyramidal tract was seen very strikingly in the medulla and in the pons. There was another spot involving the anterior part of the lenticular nucleus. The patient had had, several years before, an attack of left hemiplegia, from which he recovered with the exception of some paresis of the left arm. This attack was explained by the lesion just noted.

Dr. Thacher also presented a brain showing a small spot of softening in the outer layer and posterior part of the lenticular nucleus, from an old cyst, associated with very marked atrophy of the pyramidal tract on that side, and of the optic thalamus.

The President exhibited a liver containing certain pale areas, which by their gross appearance had at first led him to make an erroneous diagnosis. The patient was a negro, aged fifty-three, who at the time of his admission had marked emphysema, and soon afterward developed an irregular temperature ranging between 100° F. and 102° F. No cause could be found for this temperature, which continued for three or four months. There was a gradual accumulation of fluid in the abdominal cavity, and he died suddenly from cerebral hemorrhage. The autopsy showed extensive emphysema, lesions of the mitral and aortic valves, extensive endarteritis, and ascites, in addition to the diseased liver which he presented. This liver was considerably enlarged, and its surface indistinctly nodular. On section, numerous light areas, which showed distinctly through the capsule, were found scattered all through the liver, and projected above the cut surface. He had considered them small multiple secondary new-growths, until a careful search failed to reveal a primary tumor. Microscopical examination showed these areas to be not new-growths but liver tissue, surrounded by dilated vessels and extensive fatty change.

Dr. H. P. Loomis said that he had seen light areas around central veins which presented a very similar appearance. Dr. Prudden had examined them with him, and they had come to the conclusion that at some time previous there had been a passive congestion of the liver with overdistention of the capillaries, and that, after this cause had disappeared, the areas supplied by these vessels remained anæmic.

The Society then went into executive session.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

THE LUMLEIAN LECTURES AT THE COLLEGE OF PHYSICIANS—THE TREATMENT OF STRANGULATED HERNIA WHEN THE INTESTINE IS GANGRENOUS OR ULCERATED—THE PRESIDENCY OF THE ROYAL COLLEGE OF PHYSICIANS.

London, March 28, 1891.

In his second "Lumleian Lecture," after reviewing the symptoms of dilatation of the heart, Dr. Broadbent discussed at some length the prognosis in early and late stages of the affection. He first considered those cases in which the effects of cardiac dilatation were fully developed. The first element, he said, in the judgment to be formed would be the urgency of the symptoms, and special importance attached to two—nausea and loss of appetite, and sleeplessness—from the effects which they had on the patient's strength. Frequent vomiting was of grave import, not only because the patient did not get the benefit of the nourishment, but because it showed that the stasis in the abdominal circulation had reached a point which interfered seriously with the digestive secretions. Attacks of fainting and of extreme exhaustion, or of severe dyspnœa, were also very serious.

Dr. Broadbent remarked that it was not always when the dropsy was excessive that the condition of the patient was worst. From the late appearance or entire absence of dropsy in fatty degeneration of the heart, in aortic disease, and mitral stenosis, it appeared that a certain degree of pressure in the arterial system was required to co operate with the back pressure in the venous system for the full development of dropsical effusion. When the œdema remained moderate in amount while other symptoms, such as breathlessness, faintness, and muscular weakness—the latter especially—indicated great cardiac inefficiency, it might be because the left ventricle propelled the blood with very little force. Degeneration might be a factor in the case. A frequent, short, unsustained pulse and heart-beat, without much œdema, might thus indicate a graver condition than extreme dropsy. Long-continued, excessive frequency of the pulse was an unfavorable sign.

The urgency of the symptoms being about the same, a larger degree of dilatation added gravity to the prognosis, and it should be borne in mind that approximation of the first and second sounds was always a very serious indication. A good right-ventricle impulse was a favorable point, and the lecturer said it had always appeared to him that there was a greater margin for treatment when the liver was considerably enlarged.

When the symptoms and physical signs had been well weighed, the first question to be asked in view of prognosis was whether there had been any adequate exciting cause of the symptoms? If there had been recognizable over-exertion, or grave anxiety—any bodily or mental strain—or if there had been a chill, giving rise to bronchitis or other affection of the lungs, or deranging seriously the liver and digestive organs, it might be hoped that rest and treatment would undo the ill effects, and restore the balance. If, on the other hand, the symptoms had crept on gradually without traceable cause, and especially when due care had been exercised, and there had been no habitual error of regimen or neglect of bowels, the probabilities were that the symptoms were the outcome of conditions which could not be reversed—of radical inherent weakness of the heart. The previous mode of life, active or sedentary, careful or imprudent, and especially the habits with regard to alcoholic stimulants, would have a very important bearing on the probable issue of the attack, as would also the general soundness and the absence or existence of disease of any other important organs, especially of the kidneys and liver. The patient's cheerfulness, hopefulness, and courage under his sufferings or his despondency, would make powerfully for or against him, not only as direct influences, but because the state of mind was often an index of the state of the system. The family history was also of weight in prognosis. Few tendencies ran more strongly in families than those which were manifested in the heart and vascular system, whether to high arterial tension with the effects on the vessels and heart which followed, or to dilatation and weakness, or to degeneration. A prognosis, otherwise not unfavorable, might have to be instantly revised on learning that the father and an uncle or two, or a brother, had died at about the patient's age from heart disease. Finally, the response to treatment would speedily afford a prognostic indication of the utmost value.

The lecturer then spoke of the prognosis of cases in which the disease was at an early stage, and less serious consequences had been produced. As regarded physical signs, he said, the most important evidence would not be as to the actual size of the heart, but as to the strength remaining in its walls. A greatly dilated heart which was capable of giving a recognizable apex beat and fair impulse of right or left ventricle, was more to be trusted than one which had apparently undergone less change in its dimensions, but the movements of which could scarcely be felt at all. There was always a possibility that degeneration might enter into the causation of the symptoms. It was better, again, that the sounds should be strong than weak, spaced than approximated, and it was important that the second sound of the ventricles should be well marked. In his experience, irregularity of action was of less consequence than frequency, and he had learned not to attach serious importance to the regular alternation of a strong and weak heart, so long as there was no great frequency with it. The pulse was of importance chiefly as an indication of the vigor with which the blood was propelled into the arterial system. Dilatation of the heart presupposed high arterial tension at the time of its production, and it was a favorable sign that a certain degree of this tension persisted. When we found a short, small, low-tension pulse, unless this was the result of treatment, it meant that the heart had not sufficient strength to maintain the pressure in the arteries. The probability of improvement or of prolonged immunity from ulterior consequences would next depend on the general condition of the patient, on the soundness and nutritional vigor of his tissues and organs, and especially of his blood vessels; if he were weak and anæmic, on the cause and character of the impairment of health—whether it was inherent or accidental, whether, in effect, it was remediable or not. When the state of the heart and of the general health was attributable to alcoholic or other excesses, including the abuse of tobacco, to habits or conditions adverse to health, whether or not the patient was willing and able to renounce his self-indulgence and relinquish his vices, or alter his ways and surroundings. Considerations of this kind were of the utmost importance.

At the last meeting of the Medical and Chirurgical Society Mr. C. B. Lockwood read a paper on the "Treatment of Strangulated Hernia when the Intestine was Gangrenous or Ulcerated." His communication was based upon the analysis of cases collected from the records of St. Bartholomew's Hospital, which had been treated in the manner laid down by Sir William Lawrence, viz., "by a free incision of the mortified part in order to unload the distended intestinal canal; or, if the gut should have already given way, to divide freely the integument and sac, and to leave the subsequent process of cure entirely to nature" the stricture being also divided, if necessary, for the proper flow of fæces. Out of 35 cases 31 died, and of the four which recovered one had a fistula eight months after operation. M. Lockwood urged that primary resection and suture of the intestine would be preferable.

Mr. Bryant said he was struck with the high mortality. He thought one would be very likely to tear away the healthy from the gangrenous portion on trying to draw

the gut down to resect it; but the operation might be valuable in a few selected cases. In the old method, as described by Sir William Lawrence, he thought it might be advisable to push back the knuckle of intestine so as to leave as straight a road as possible afterward. It was a mistake to draw down the bowel.

Mr. Bennett said the treatment advocated was an ideal one, but scarcely practicable. It had been shown that in many of the cases there was no relief of the bowel even after it had been laid open, and resection would not remedy this.

Mr. Hulke said there should be as little manipulation as possible of the gut in these cases. He thought it a mistake to combine the operations of resection and radical cure, as, if the bowel should not unite, there would be no outlet for the extravasated matters.

Mr. Treves said that when Mr. Mitchell Banks had brought up the subject in 1885 at the Medical Society, everybody must have been struck with the remarkable differences of opinion then expressed. This was due, he suspected, to the fact that in any individual's experience these cases were comparatively rare. Mr. Treves then showed that the statistics of mortality between the old method and primary resection were not comparable, the cases of the latter being selected, whereas the cases of the old method were taken straight from the hospital records. In acute intestinal obstruction Mr. Treves thought the less that was done the better, as the patients were not dying of gangrene but of obstruction. He thought the best and simplest way was merely to open the sac, and divide the stricture so as to relieve the obstruction. If the intestine was gangrenous, it was best to bring it gently down and attach it by sutures to the abdominal wall, and then either to open the gut or to let it open itself.

Sir Andrew Clark has been re-elected as President of the Royal College of Physicians.

NOT SO BAD AS IT SEEMS.

To the Editor of the Medical Record.

Sir: Is not "Justice" himself a bit to blame? Does he not, by betraying his irritation too plainly, give his patients the idea that it is jealousy at the success of the other man or the loss of business which prompts his indignation?

No one can condemn underhand methods more than I do, and I consider myself to have suffered from them in rare instances, yet when I have lost business in that manner have rather looked over my own armor to see where it was amiss and thus permitted the poisoned shaft to enter.

In the first place it is probably the case, nine times out of ten, that it is the officious friend who is unfair and not the brother practitioner. Secondly, the timid and anxious inquiries or suggestions of the patient are "sat down upon" too dogmatically. Thirdly, if one is sure that he is doing right and acting honestly, he can afford to be patient, trusting that the dishonest man will overreach himself, and then his patient will return with added confidence, never to stray again, provided that he has not, in his irritation, so offended that patient's self love as to render future intercourse impossible.

I have frequently lost the practice of families, but never failed to regain it if I did not allow myself to get angry. If I was even more pleasant than before, if I never failed to inquire after their welfare, if I uniformly preserved an appearance of well-being, showing that I was not angry at their changing doctors, that my practice did not immediately collapse because of their defection, and that I was honestly glad that the new doctor pulled them through all right, when he "slops over," as he is bound to do if he has acted dishonorably, they instinctively turn to the old friend who still is friendly.

Doctors there are who have thought it worth while to have looked up homœopathic methods of practice and have sifted out some wheat from a great deal of chaff, perhaps, and are willing to practice "both ways," or either way, if the good of the patient can be thereby secured, and in so doing are neither disreputable nor dishonest. "Justice" can, without stultifying himself, refrain from launching out in a tirade against homœopaths and honestly state that he believes in doing the best thing possible for the patient, and that he does not care whether he gives large or small doses provided he attains the end sought for.

Honesty, tact, and patience will win the battle in the long run. Finally, he must remember that even "blighted ovums" have a right to exist, so far as their imperfect development will allow of. Tact.

Gloversville, N. Y., March 17, 1891.

WAS IT ENTERIC FEVER?

To the Editor of the Medical Record.

Sir: In your issue of March 21, 1891, a case is reported of "Enteric Fever with Peculiarities," in which there was an even division in the diagnosis, two were for typhus fever, and two for typhoid fever. The compressed history of the case was as follows:

Female, aged fifty, was indisposed and exhausted; with headache, pain in the back and limbs; chilliness, distinct chill lasting about six hours in the second night, followed by fever, but no perspiration.

Third day: Temperature 103°F.; a rapid, compressible pulse; dry, furred tongue; nausea, inability to keep anything on stomach; bowels constipated; no abdominal symptoms; voiding a plenty of urine, febrile in character; face somewhat turgid; pupils contracted; mental condition rather sluggish; complains of splitting pain in the head, extending down spine; legs feel heavy and dead; staggers in attempting to get out of bed; irritable. Fever continues for days at and above 103° F., but never goes over 104° F.

Seven days from the commencement of her illness an eruption appears on her chest and abdomen of two varieties. One irregular in form, purplish, seemingly not elevated, disappearing on firm pressure, quickly returning, these spots are quite numerous, varied in size from a pin's head to a spot half as large as a penny (small?). seemingly formed by a coalescence of several smaller ones.

The second variety consisted of very small bright-red spots, which filled in the spaces between the others, and these were mainly on the abdomen, not elevated, disappeared on pressure, recurred slowly. These eruptions did not appear and disappear, but were continuous. She recovered in three weeks.

Are not most of the above symptoms classical of sporadic cerebro-spinal meningitis, with probable latent pneumonia?

As no mention is made of the condition of the lungs, the prolonged night chill is suspicious. This case commenced on January 19, 1891, and in this Journal there were reported for the week ending January 10, 1891, three cases of cerebro spinal meningitis, and five deaths. Doubtless the misleading factor with two of the doctors was the eruption of pseudo typhus.

It is unfortunate that so much stress is laid upon the diagnostic value of the so called rose spots, and also on the eruption of typhus fever. Typhoid fever, before its extinction in America, may be undergoing a change in its symptoms. And we may have a modified form of typhus fever in America, as we have American gout.

Certainly in places in America we have the majority of the predisposing elements that are had in Ireland, its frequent home. These eruptions are so liable to be wrongly described according as the observer is more or less conversant with skin diseases. As in painting, the eye has to be taught to see. The spots of typhoid fever are by no means invariably present, and are observed more

frequently in some years than in others, are not so often seen in the country, and are often absent in children.

I venture to say that a spot or spots of some kind can be found on the abdomen, chest, sides, or back of the average well man; none of us is "without spot or blemish." And he will sometimes be a very disagreeable doctor who in his ardor to find this *sine qua non* in diagnosis, rolls his feverish patient, as if he were a log, from side to side in the fervent hope and expectation of discovering one little petechia, or fleabite like spot. But he must be scientific, and the books tell him that when the spots cannot be found in front, look elsewhere, and after a certain number of days he will most certainly find a spot or spots, if the case is to be called typhoid fever, and he gives a mental eureka! provided he goes over sufficient territory, has good eyes, or a roseate imagination.

Concerning the diagnosis of typhoid fever made by two of the gentlemen, I would suggest that the patient's age, fifty years, and most of the symptoms, except certain mental symptoms, and the spots "appropriated" by them, were not diagnostic of typhoid fever.

THOMAS R. EVANS, M.D.

LINCOLN, VA., March 24, 1891.

THE EPIDEMIC OF LA GRIPPE.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: I read your able editorial on Grippe with great interest. It has been again prevalent in this city for some months; and it is reported to be severe in Chicago, with unusual fatality. There seems to be no concise and definite treatment decided upon—some physicians relying upon phenacetine or antipyrine, others giving quinine, or salicylate of cinchonidine, etc.

I have seldom or ever had occasion to visit anyone with this disease more than from three to five days, using the following method. As in yellow fever, a mercurial purge is required at the inception of the attacks—the following formula being used:

℞. Calomel ..... gr. iij.
Rhubarb ..... gr. iv.
Calc. magnesia ..... gr. xx.
Soda ..... gr. iij.
Ipecac ..... gr. ½.

And if fever exists, a fever mixture:

℞. Spirits of mindererus ..... ʒ j.
Sweet spirits of nitre ..... ʒ iij.
Tincture of aconite ..... gtt. xxx
Paregoric ..... ʒ ij.
Water to ..... ʒ iv.

A dessert-spoonful in water every two hours.

If, as is often the case, the lungs threaten to become implicated, wine of antimony and syrup of senega, āā ʒ iij. are added; with the use of local applications to the chest, or to the seat of pain, of mustard or turpentine.

Three grains of quinine are given thrice a day, and port wine freely used, after the first day. I prefer California port because it is sound and inexpensive. Milk punch may also be used, as it prevents the tendency to weakness and prostration. If there is much pain, headache, or insomnia, phenacetine, five to seven grains, can be prescribed for their relief, preferably at night.

In a youth, who we saw with his father, a physician, and who was suffering from a relapse, the high and persistent fever, and repeated and violent delirium—occurring day and night—were completely relieved by five grains of phenacetine given twice at an interval of six hours.

As soon as the purgative produces a medicinal effect, the force of the disease seems to be broken. Antimony is to be preferred to ipecacuanha to prevent the tendency to pneumonia or to congestion of the lungs.

CHARLESTON, S. C. F. PEYRE PORCHER, M.D.

"**Make Somebody Else Happy**," was the prescription given by a wise physician to a victim of nervous depression.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending April 4, 1891.

	Cases.	Deaths.
Typhus fever	1	0
Typhoid fever	8	8
Scarlet fever	225	25
Cerebro-spinal meningitis	4	5
Measles	386	22
Diphtheria	101	31
Small-pox	0	0
Varicella	5	0
Pertussis	7	13
Erysipelas	1	0
Mumps	0	0
Rötheln	0	0

Ichthyol.—The addition of ten per cent. of oil of citronella is said effectually to mask the odor of ichthyol, while in no way detracting from its therapeutic virtues.

Vinegar for Urticaria.—After trying many remedies in a severe case of urticaria Mr. Swain found a vinegar lotion gave almost instant relief, and subsequent trials in other cases have been equally successful. One part of water to two parts of vinegar is the strength most suitable.—*British Medical Journal.*

For the Prevention of Baldness.—It is recommended for the prevention of baldness that the hair be kept pretty closely cropped, and that the head be bathed frequently in salt water and lubricated occasionally with a very small quantity of vaseline. About two teaspoonfuls of salt to a pint of water will make a tonic of the proper strength, and with this the head should be bathed at least three times a week.

An Ingenious Way of Putting It.—A lecturer in a popular medical college is reported to have made the following bid for consultations at the close of one of his lectures: "If the public presumes to attack the professional characters of men who are your medical teachers, how careful you should be in all important cases to guard yourselves by calling in older and more experienced advice—and by getting the responsibility shared."

Cholera in Calcutta.—During the four weeks ending January 3, 1891, there were one hundred and thirty-two deaths from cholera in Calcutta.

BOOKS RECEIVED.

TEXT-BOOK OF MEDICAL JURISPRUDENCE AND TOXICOLOGY. By John J. Reese, M.D. 8vo, 666 pages. P. Blackiston, Son & Co., Philadelphia, Pa.

DENTAL-KALENDER FÜR DEUTSCHLAND, 1891. IV. Jahrgang. Thiel II. 12mo, 343 pages, paper. Dr. Erich Richter, Berlin.

PHYSICAL DIAGNOSIS OF THE DISEASES OF THE HEART AND LUNGS AND THORACIC ANEURISM. By D. M. Cammann, M.D. 8vo, 188 pages, illustrated. Price, $1.25. G. P. Putnam's Sons, New York.

PLAIN TALKS ON ELECTRICITY AND BATTERIES, WITH THERAPEUTIC INDEX. By Horatio R. Bigelow, M.D. 8vo, 85 pages, illustrated. P. Blakiston, Son & Co., Philadelphia, Pa.

KOCH'S REMEDY IN RELATION SPECIALLY TO THROAT CONSUMPTION. By Lennox Browne. 8vo, 114 pages, illustrated. Price, $1.50. Lea Brothers & Co., Philadelphia.

NINTH ANNUAL REPORT OF THE STATE BOARD OF HEALTH OF THE STATE OF NEW HAMPSHIRE FOR THE YEAR ENDING OCTOBER 31, 1890. 8vo, 344 pages.

Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 39, No. 16.
Whole No. 1067.

NEW YORK, APRIL 18, 1891.

$5.00 Per Annum.
Single Copies, 10c.

Original Articles.

STUDIES ON THE ETIOLOGY OF DIPHTHERIA—SECOND SERIES.

BY T. MITCHELL PRUDDEN, M.D.,

DIRECTOR OF THE LABORATORY OF THE ALUMNI ASSOCIATION, COLLEGE OF PHYSICIANS AND SURGEONS, NEW YORK.

IN an experimental study on the etiology of diphtheria, published by the writer in 1889,[1] a brief summary was given of the more important bacteriological studies which had been made of this disease, up to that time, by the new methods in various countries. This summary showed that the attention of the observers had been largely centred on two species of bacteria, which, sometimes apart, sometimes together, had been so frequently found in the pseudo membranes as to give rise to a justifiable belief that one or other or both of them might be the cause of the disease. These bacteria were the so-called Bacillus diphtheriæ of Loeffler, and a streptococcus which most observers are inclined to believe identical with the Streptococcus pyogenes and Streptococcus erysipelatos. The evidence which had accumulated along these lines was largely such as was derived from the presence of these germs in the local lesion or elsewhere in the bodies of the victims of diphtheria. The results of animal experiments were in so far indecisive as that, while they showed that both forms of bacteria were in different ways pathogenic, neither of them was capable of inducing a disease which could be fairly considered absolutely identical with human diphtheria. The animal experiments with the Bacillus diphtheriæ were by far the most convincing in this regard, inasmuch as with this germ a pellicle somewhat analogous to the pseudo-membrane of diphtheria could be produced by their application to a wounded mucous membrane, and in some animals, notably the guinea-pig, death regularly followed subcutaneous injections of cultures, with definite and fairly constant lesions. The lack of precision in our conception of what should be called, strictly speaking, diphtheria, and what forms of disease associated with the development of a pseudo-membrane, if any, should be held apart from it, has led to much uncertainty as to the interpretation of the results of all these studies. Clinical observers in this country have been disposed of late—erring, if erring at all, on the side of safety—to consider and to treat all pseudo membranous inflammations as if they were the local expression of the acute infectious disease which has been called diphtheria.

This condition of affairs, however, wise as its perpetuation might seem to be from the practical standpoint of the bedside adviser, is most confusing and unfortunate from the point of view of the seeker after the primary causes of all these phases of pseudo-membrane inflammation, because it is fully established that a pseudo-membranous inflammation of the mucous membranes may be induced by a variety of agents.

As the result of a summary made in the paper above alluded to, in 1889, of the cases from which the bacillus of Loeffler had been isolated by culture, and its virulence proved by animal inoculations, it was found that this bacillus had been cultivated from 24 out of 28 cases, thus far fully studied.[1] Fuller reports of studies not included in the above summary on account of too meagre details then at hand, and studies made since that time, which have been numerous and important, show the following results so far as the bacillus of Loeffler is concerned:

Babes[2] found the Bacillus diphtheriæ in all of 42 cases of diphtheria; D'Espine[3] found it in 14 cases; Ortmann[4] in 15 out of 16 cases; Spronk, Wintgens and Van den Brink[5] in all of 7 cases; Roux and Yersin[6] in all of 15 cases; Kolisko and Paltauf[7] in 50 cases; Zarniko[8] in 18 out of 20 cases; Beck[9] in 50 out of 52 cases; Sörensen[10] in 7 out of 10 cases; Escherich[11] in 20 out of 22 cases; Tangl[12] in all of 18 cases; Brieger and Fraenkel[13] in all of 22 cases.

We have thus on record at the present time, so far as the literature is available to the writer, the results of the examination of 316 cases of so-called diphtheria, in 302 of which the bacillus of Loeffler was found.

A large number of control examinations by various observers have established the fact that this virulent bacillus is rarely, if ever, found in the body except in the local lesion of diphtheria, and is almost never present in any other disease or in health. A so-called pseudo-diphtheria bacillus has been found both in the membrane of diphtheria and in healthy or otherwise diseased individuals. This bacillus is morphologically, as well as biologically, similar to, if not identical with, the Bacillus diphtheriæ, but is not virulent on inoculation into guinea-pigs or the commonly employed animals.

Very significant experiments on animals with a poison developed in the cultures of the Loeffler bacillus, a poison capable of inducing delayed paralyses and other toxic symptoms,[14] as well as various other collateral studies which cannot be considered here, serve to reinforce the evidence now at hand, that the Bacillus diphtheriæ of Loeffler is the causative agent, in a large proportion of cases at least, of the disease commonly spoken of as diphtheria.

On the other hand, a large proportion of the observers who have found the Loeffler bacillus in the pseudo-membranes of diphtheria, have found more or less frequently associated with it a streptococcus apparently identical with the Streptococcus pyogenes and Streptococcus erysipelatos. Furthermore, there is recorded a considerable number of cases of pseudo-membranous inflammation closely simulating, if not identical morphologically and clinically, with diphtheria, in which not only is the Bacillus diphtheriæ of Loeffler absent, but in which the above-mentioned streptococcus is nearly constantly present. These forms of so-called diphtheria are most commonly associated with scarlatina and measles, erysipelas and

[1] Prudden: The American Journal of the Medical Sciences, May, 1889.

[1] See supplementary note at the end of this paper referring to studies just published by Welch & Abbott.

[2] Babes: Zeitschrift für Hygiene, Bd. 5, p. 177.

[3] D'Espine: Revue médicale de la Suisse romande, 1888, No. 1, p. 49.

[4] Ortmann: Berliner Klin. Wochenschrift, 1889, No. 10, p. 218.

[5] Spronk: Wintgens and Van den Brink, Nederl. Tydschrift, v. Geneeskunde, 1889, Ded. II., Nos. 22 and 23. Centralblatt für Allg. Path. und Path Anat., Bd. 1, p. 218, 1890.

[6] Roux and Yersin: Annales de l'Institut Pasteur, 1888, No. 12.

[7] Kolisko and Paltauf: Wiener Klin. Wochenschrift, 1889, No. 6.

[8] Zarniko: Inaug. Dissertation, Kiel, 1889.

[9] Beck: Zeitschrift fur Hygiene, Bd. 8, p. 434.

[10] Sörensen: Nordiskt medicinskt. Arkiv., 1886, Bd. 18, No. 25.

[11] Escherich: Centralblatt für Bakteriologie, January 2, 1890, p. 8.

[12] Tangl: Centralblatt für Allg. Path. und Path. Anat., Bd 1, p. 795, 1890.

[13] Brieger und Fraenkel: Berliner Klin Wochenschrift, March 17, 1890, p. 242.

[14] Roux and Yersin Annales de l Inst. Pasteur. Spronk Centralblatt für Allg. Path. & Path. Anat. Bd. 1, p. 221.

phlegmonous inflammation, or occur in individuals exposed to these diseases; but whether exclusively under these conditions, is not yet fully established.

Thus Loeffler [1] says as the result of his work: "That the chain-forming micrococcus can cause a disease similar to diphtheria when it enters the pharynx and spreads toward the lungs in the tracheal lymph-channels, I consider very probable." Fraenkel [2] found a streptococcus in nearly pure culture in two cases of somewhat atypical diphtheria; Raskin [3] found a streptococcus, but not the Loeffler bacillus, in two out of three cases of so-called scarlatinal diphtheria. In a series of cases of scarlatinal diphtheria studied by Heubner [4] the bacillus of Loeffler was wholly absent, but a streptococcus was always present. Wurz and Bourges [5] found in nine cases of scarlatina, in which the diphtheritic lesion developed early, that the bacillus of Loeffler was absent, while a streptococcus similar, but, according to them, not absolutely identical with the Streptococcus pyogenes, was present in all. In two cases in which the diphtheritic lesion developed late, the bacillus of Loeffler was found. Roux and Yersin,[6] in three cases supposed clinically to be diphtheritic from the development of a pseudo-membrance on and behind the tonsil, and in one case on the tongue and lips, failed to find the Bacillus diphtheriæ (Loeffler), but did find cocci, in two of the cases of well-marked streptococcus form.

Chantemesse and Widal have reported cases in which a fibrinous exudate similar to that of diphtheria was associated with a streptococcus.

In the series of studies of 24 cases by the writer in 1889, already alluded to, the bacillus of Loeffler was absent in all, but a streptococcus apparently identical with the Streptococcus pyogenes was found in 22. This result, negative, so far as Loeffler's bacillus is concerned, has seemed to excite dissatisfaction among many of the German reviewers of the article, since it has been interpreted by them as speaking against the etiological importance of Loeffler's bacillus, an interpretation which was not drawn by the writer in the article in question, and which seems to him wholly unjustifiable.

In view of the doubt existing among practitioners as to whether all forms of pseudo-membranous inflammation should be called diphtheria, or not, and with the purpose of making a wholly objective study, the writer distinctly stated at the outset of that paper, that all the fatal cases of extensive pseudo-membranous laryngitis, as well as pharyngitis, should in his study be considered as cases of diphtheria. This left the question as to the propriety of establishing separate groups of pseudo-membranous inflammation open and free from bias. It was distinctly stated, however, that 16 out of the 24 cases occurred in a large asylum, in which measles and scarlatina were prevalent during the period in which these studies were under way. Five other cases from another asylum were exposed to similar conditions. Furthermore, it is set forth in the clinical histories of the individual cases, that 2 were associated with whooping-cough, 2 with umbilical phlegmon, 1 with chicken-pox, 2 with scarlatina, 1 with rectal abscess, 1 with erysipelas of the vulva, 4 with measles. While no such complications existed in the individual, in the remaining ten cases, the fact that they were largely (all but two) children intimately associated with those exhibiting one or other of the complicating disorders, was not perhaps sufficiently emphasized, but seemed to the writer so patent from his preliminary statements, that it was not deemed necessary to call specific attention to it.

We should not forget that there is a very significant possibility that sensitive children closely associated in nursery wards with others suffering from scarlatina, measles, and erysipelas may, though not actually affected with these diseases themselves, still be liable to acquire those complicating forms of disease which find expression in a pseudo-membranous pharyngitis and laryngitis.

In the conclusions which were drawn from the results of these examinations, the writer stated that, "It should be distinctly understood that these studies on the etiology of diphtheria, and the conclusions derived from them, apply only to a certain set of cases. It by no means follows that because this particular group of cases of diphtheria is caused by a streptococcus, and seems to be intimately related in etiology to some other common phase of inflammation, that all cases of diphtheria are induced by the same organism, or are related in the same way to erysipelas and phlegmon."

That other organisms than the streptococcus here described may induce that set of symptoms and lesions to which we give the name diphtheria, we must, of course, admit, and this the more readily on account of the great variability of both symptoms and lesions in even well-marked groups of cases. So far as Loeffler's experiments go, they tend to indicate that some other forms of bacteria really may play a part in the induction of certain forms of the disease." And further, "On the whole, it seems to me that, considering the insusceptibility of animals to diphtheria as we know it in man, the result of all these series of experiments taken together, abundantly justifies us in the assumption that in a certain class of cases, at least, diphtheria is caused by a streptococcus having the character set forth above."

In view of the apparent discrepancy between the results taken as a whole, and those of other observers, the writer has been over the material which served as the basis of these researches, so far as it was still available, and fails to find any reason for a revision of his results or his conclusions.

Of course, one would not for a moment deny the possibility of the Loeffler bacillus having been overlooked in some of these cases, since the experimental error is not inconsiderable in all studies of this kind. Here a negative result is, however, never of equal weight with a positive one. But the extremest care was used, and I do not think there was any oversight. It is furthermore not beyond the bounds of possibility, as Baumgarten [1] suggests, that the Loeffler bacillus may lose its vitality early in the presence of large numbers of other bacteria, such as the streptococci, and so may not be revealed in the cultures.

It has been suggested, and upon this point much stress has been laid, that the culture medium largely employed by the writer for the plate cultures, namely, glycerine-agar, is not as favorable for the purpose as is the blood-serum mixture employed and recommended by Loeffler, since on it, the growth of the Loeffler bacillus is not so rapid in comparison with that of other bacteria. That it is sufficiently well adapted to this purpose, to say the least, is shown by its recommendation and employment by several reliable observers, and by the fact that the writer has found no difficulty in separating by its use the Loeffler bacillus in cases of diphtheria in which that germ was present, as it was in most of the new series of cases presently to be described. Glycerine-agar (six per cent. glycerine) is a perfectly good and wholly reliable medium for the cultivation of the Bacillus diphtheriæ of Loeffler, and for its separation from other forms of bacteria which may be present in the various forms of pseudo-membrane. But to be successful with this medium, it is wise, as was always done in the experiments in question, to make numerous plates, and to make the streaks upon the agar on these plates so dilute and so numerous that the Loeffler bacillus will have the opportunity when present to grow sufficiently for recognition and resowing in some places at least without overgrowth by, or interference with, other forms of germs.

The whole, or at least the main, difficulty in this matter

[1] Loeffler: Mitth. a d. Kais Gesumsheitsamte, Bd. 2, 1884.
[2] Fraenkel: Zeits. für Klin. Med., Bd. 13, H. 1, S. 19, N 26.
[3] Raskin: Centralblatt für Bakteriologie, Bd. 5, 13 and 14.
[4] Huebner: Jahrb. für Kinderheilkunde, Bd. 31, 1890, p. 56.
[5] Wurz and Bourges: Arch. de Med. Exp., May 1, 1850.
[6] Roux and Yersin: Annales de l'Institut Pasteur, July, 1890, p. 393.

[1] Baumgarten: Jahresbericht über die Fortschritte in der Lehre von den pathogenen Mikroorganismen, 1889, p. 215.

seems to the writer to be one not of technique, not of imperfect observation, but one first of nomenclature, and second of premature assumption as to the unity of cause in pseudo-membranous inflammations. In other words, in order to decide positively what causes diphtheria, we need to know positively what symptoms or lesions shall be recognized as characterizing it, in distinction from other allied symptoms and lesions, if such exist, which are of different nature and different origin. If we cannot determine this at the bedside, we must strive by the new biological methods to gain such knowledge of the etiology of the whole group as shall enable us to decide whether or not it should be divided into separate classes.

In view of the condition of affairs at present existing, and as it did not seem at all probable that the disease properly called diphtheria could have a specific bacterial cause different in America from that known in Europe, it has seemed incumbent on the writer to undertake a new series of studies on a set of cases from which the complicating conditions existing in most of the previous cases should be so far as possible eliminated.

The cases now to be recorded, twelve in number,[1] were cases of fatal pseudo-membranous inflammation occurring in two children's asylums, in which for many months there had been no scarlatina and no measles, and in which there were no complicating suppurative inflammations and no erysipelas. In one case only was there the complication of whooping-cough.

The following are the cases and the results of their examination :

Case I. *Clinical History.*—Female, three and one-half years of age. September 22, 1890, pharyngeal pseudo-membrane. September 24th, laryngeal symptoms. September 25th, 5 A.M., intubation, followed by rise of temperature, 108° F. ; died at 12 P.M., cyanotic.

Autopsy.—A dense, firm, closely adherent membrane on both tonsils, on posterior surface of epiglottis, and extending throughout larynx and trachea down to medium bronchi ; loosened and thinner below. Lungs : deep congestion with broncho pneumonia in both posterior lobes. Kidneys : parenchymatous degeneration.

Bacterial Examination, Morphological. — Moderate numbers of stout bacilli in older parts of pseudo-membrane, with considerable numbers of cocci in masses and scattered.

Cultures. — Membrane, the most abundant colonies showed the characteristic mode of growth of the Bacillus diphtheriæ (Loeffler) on the plates and in tube-cultures of glycerine-agar, gelatin, and beef-tea ; stained specimens from these cultures showed the characteristic bizarre form. I do not give a detailed description of the morphology and biology of these bacilli, since no new observations were made on them and they corresponded in all respects with the well known and definite descriptions so often reported. Almost equally abundant were colonies, cultures from which gave the characters of Streptococcus pyogenes. There were also numerous colonies of Staphylococcus pyogenes aureus, and a few scattering forms, mostly bacilli. Cultures from the kidneys were negative.

Animal Experiments.—Inoculation of the sediment of beef-tea cultures four days old of the bacillus resembling the bacillus of Loeffler into a guinea-pig, was followed by death within thirty-six hours, with hemorrhagic œdema, and a localized whitish exudate at the seat of injection ; effusion into the serous cavities, and a moderately swollen spleen. Cultivations from these animals gave pure cultures of Loeffler's bacillus from the exudate at the seat of inoculation, and no growth whatsoever from the heart's blood and viscera.

[1] A large part of the material used in this study came from the New York Infant Asylum, Mount Vernon, N. Y., from the service of Dr. Robert Millbank. For this material and for his most valuable collaboration in other ways, I wish to express my indebtedness to Dr. Charles G. Kerley, Resident Physician of the New York Infant Asylum. The remainder came from the New York Foundling Asylum, and for this I am indebted to Dr. Wm. P. Northrup and Dr. G. S. Lynde.

Remarks.—This child was quarantined with several other children before it became ill, and developed its disease at the same time as another child, and there were three more cases in the same building immediately following these.

Case II. *Clinical History.*—Female, aged three years and ten months. January 5, 1891, membrane seen on pharynx and continued there, with an unusual amount of white membrane forming in pharynx and nose. January 16th, intubated, and much membrane coughed up. January 21st, suddenly grew much worse, with heart failure ; rallied twice, but dropped dead at 6 P.M.

Autopsy.—Loosening membrane from tip of epiglottis down into medium bronchi. Lungs : broncho-pneumonia in middle and upper lobe posteriorly. Kidneys : parenchymatous degeneration.

Bacterial Examination, Morphological.—Large numbers of cocci massed and scattered in pseudo-membrane ; no bacilli found.

Cultures.—Membrane, large numbers of colonies of streptococcus having the characters of Streptococcus pyogenes developed on the plates from the pseudo membrane ; also considerable numbers of Staphylococcus pyogenes aureus. The bacillus of Loeffler did not develop on any of the plates. Cultures from the lungs and from the kidneys showed considerable numbers of Streptococcus pyogenes and Staphylococcus pyogenes aureus and nothing else.

Remarks.—This case had not, so far as known, been exposed to diphtheria, and there were no cases in the nursery for three months previously.

Case III.—Male, aged two years and ten months. February 1, 1891, croupy in the evening ; membrane over pharynx. February 2d, severe dyspnœa ; intubation. February 3d, albumin in urine ; temperature, 104° F. ; cyanotic ; no evidence of pneumonia. February 4th, died.

Autopsy.—Dense membrane on tonsils and in larynx and trachea down to first bronchi. No pneumonia ; parenchymatous degeneration of kidneys.

Bacterial Examination, Morphological.—Large numbers of bacilli, single and clustered in the more superficial part of the pseudo-membrane ; also large masses of cocci, single and in chains.

Cultures.—Membrane, moderate numbers of colonies resembling on the plates and in subsequent tube cultures, the Bacillus diphtheriæ (Loeffler), enormous numbers of colonies of Streptococcus pyogenes, considerable numbers of colonies of Staphylococcus pyogenes aureus. Lung cultures contained a few colonies of Loeffler's bacillus, many streptococci, and a few staphylococci. Kidney cultures were negative.

Animal Experiments.—A guinea pig inoculated subcutaneously with the sediment of a four-days old beef-tea culture of the Loeffler's bacillus, died thirty-six hours after, with the usual local lesions, cultures from which showed the specific bacillus, while visceral and blood cultures were negative.

Remarks.—There had been no diphtheria in the nursery for at least two months before this child was attacked.

Case IV.—Female, aged two years and eight months. Had whooping-cough and a broncho-pneumonia early in January, 1891, which ran a short course ; was exposed to diphtheria late in January. February 1st, croupy ; temperature 102° F., with loose patches of exudate on tonsils ; might from appearance have been called follicular tonsillitis. February 2d, temperature, 102° F. to 104° F. ; intubation. February 7th, evidence of lung consolidation left posterior. February 8th, tube removed ; continued growing worse. February 11th, died. The whooping cough continued throughout the course of the diphtheria.

Autopsy.—Moderate membrane, loosened and disintegrating and peeling off below from epiglottis to larger bronchi. Moderate amount of broncho-pneumonia and congestion in posterior lobes of lungs.

Bacterial Examination, Morphological.—Found no bacilli in the loose shreds of membrane still adhering to surface, but these, as well as the superficial layer of the mucosa, showed many cocci single and in masses.

Cultures.—From the membrane there developed on the plates very large numbers of characteristic colonies of the Bacillus diphtheriæ (Loeffler), characteristic also in tube cultures. Also large number of colonies of Streptococcus pyogenes and a moderate number of Staphylococcus pyogenes aureus. From the lungs grew on the plates many streptococci and a few staphylococci.

Animal Experiments.—A guinea-pig inoculated subcutaneously with the sediment of a five days old beef-tea culture of the Loeffler bacillus, died on the second day with the characteristic lesions, and gave positive cultures from seat of inoculation, negative from blood and viscera.

Case V.—Female, aged twenty one days; good condition at birth. February 17th, sick. February 18th, cyanotic with extreme laryngeal obstruction. No membrane visible; epiglottis not swollen; temperature 102½° F. Intubation; large piece of membrane coughed up, with considerable relief. February 19th, cyanotic; collapse; death.

Autopsy.—Pharynx normal; no distinct membrane in air-passages, but a turbid adhesive exudate in larynx and trachea. Broncho-pneumonia posteriorly, with congestion and punctate hemorrhages. Kidneys, spleen, and liver appear normal.

Bacterial Examination, Morphological.—No bacilli found; moderate numbers of cocci, single and clustered and in chains, penetrating the mucosa in the larynx.

Cultures.—From the scrapings of trachea and larger bronchi there developed on the plates a few colonies characteristic of the Bacillus diphtheriæ (Loeffler); very many of Streptococcus pyogenes and many of Staphylococcus pyogenes aureus. The lung contained, as shown by cultures, enormous numbers of Streptococcus pyogenes, and a few of Staphylococcus pyogenes aureus. On the kidney plates developed many streptococcus colonies. From the spleen and liver nothing grew.

Animal Experiments.—Large guinea-pig inoculated subcutaneously with sediment of beef tea culture of the Loeffler bacillus died in thirty-six to forty eight hours, showing characteristic lesions, with the specific germs only at the seat of inoculation.

Case VI.—Male; aged one month, eight days. On February 19th, came into hospital with bad naso pharyngeal diphtheria. Membrane reformed with great rapidity if removed. Broncho-pneumonia developed. Death, February 22d.

Autopsy.—Dense, tough, closely adherent patches of pseudo-membrane in the pharynx and about base of epiglottis, a small amount in the upper part of the larynx; none below. Lungs, dense; broncho-pneumonia posteriorly. Kidneys: marked parenchymatous degeneration. Liver, congested. Spleen soft and slightly enlarged.

Bacterial Examination, Morphological.—Large numbers of bacilli in masses in the superficial parts of the pseudo-membrane; also numerous cocci, but slightly penetrating.

Cultures.—From the pseudo-membrane in pharynx developed an enormous number of colonies characteristic of the Bacillus diphtheriæ (Loeffler); large numbers of Streptococcus pyogenes, and many of Staphylococcus pyogenes aureus.

Lung plates showed a nearly pure culture of enormous numbers of streptococci and a few of the staphylococcus. From the liver and spleen developed considerable numbers of streptococci and nothing else, while the kidney cultures were negative.

Animal Experiments.—A large guinea-pig inoculated with sediment of a four days old beef tea culture died on the eighth day, showing the typical local lesion, with the Loeffler bacillus present at seat of inoculation, and nowhere else. A second animal, inoculated with a three days old culture, died on the second day with typical local lesion.

Case VII.—Male, aged twenty-three months. January 9th, tonsils swollen and congested; pharynx and fauces congested. January 10th, croupy, with laryngeal obstruction; hoarseness; dyspnœa; prostration and increasing cyanosis; râles over chest; temperature, 102° to 104° F.; no exudation visible; intubation, which gave marked relief. January 11th, respiration frequent; congestion and swelling of tonsils continues, but no exudate visible; prostration. Failed and died 5.15 P.M.

Autopsy.—Moderately dense and voluminous membrane from tip of epiglottis down to bifurcation of trachea, and extending on right side to finer bronchi, on the left into first divisions. Broncho-pneumonia in both lower lobes, and middle right vesicular emphysema.

Bacterial Examination, Morphological.—Small numbers, clustered and scattered, of short, rather stout bacilli, and few cocci in pseudo-membrane.

Cultures.—Large numbers of colonies on plate with characteristics here and in subsequent tube cultures of the Bacillus diphtheriæ (Loeffler), considerable numbers of Streptococcus pyogenes, and a few Staphylococcus pyogenes aureus.

Animal Experiments.—Large guinea-pig inoculated subcutaneously with sediment of five days old beef-tea culture of the Loeffler bacillus, died on third day with characteristic lesions, cultures showing the specific bacillus at seat of injection, but nowhere else.

Case VIII.—Female, aged fifteen and one-half months. January 12th, cervical lymph-nodes and tonsils swollen; fauces and pharynx congested; temperature, 100° F. January 13th, breathing labored; prostration; intubation; temperature, 104° F. January 14th, thick granular exudate scattered over tonsils and palate; breathing labored; temperature, 105° F. January 15th, temperature, 104½° F.; died at 3 P.M., after two convulsive seizures.

Autopsy.—From tip of epiglottis to middle of trachea, shreds of membrane loosely adherent. Dense membrane from middle of trachea down into finer ramifications of bronchi. Broncho-pneumonia in posterior part of both lower lobes; vesicular emphysema. Kidneys showed parenchymatous degeneration, as did liver. Spleen slightly enlarged and soft.

Bacterial Examination, Morphological.—Moderate numbers of stout, short bacilli in pseudo-membrane.

Cultures.—Large numbers of colonies of Bacillus diphtheriæ (Loeffler). A small number of Staphylococcus pyogenes, and a considerable number of a slender short bacillus (not identified).

Animal Experiments.—A large guinea-pig injected subcutaneously with sediment of a three days old beef-tea culture of the Loeffler bacillus, died on the third day with characteristic lesions, and localization of the germs to seat of injection.

Case IX.—Female, aged eleven and one-half months. January 7th, spot on left tonsil size of flaxseed; temperature, 103° F. January 8th, thick, yellow, cheesy exudate on both tonsils, size of split pea; restless; cough; temperature, 104½° F. After this the tonsils cleared, and the temperature went down to 99° F., 100° F., then the exudate reappeared; child was hoarse and croupy with pulmonary obstruction, with temperature 104½° F. on January 16th and 17th; prostration and cyanosis supervened; pharyngeal exudate increased; pneumonia developed; temperature between 103° F. and 104° F., with death on January 20th.

Autopsy.—Membrane extending from tip of epiglottis to smaller bronchi; pneumonia of both lungs.

Bacterial Examination.—This was made from a fragment of membrane coughed up on January 19th. Cultures from this showed large numbers of the Bacillus diphtheriæ (Loeffler) and a considerable number of the Streptococcus pyogenes.

Animal Experiments.—Inoculations of two large guinea-pigs caused death in both, with characteristic lesions.

Case X.—Female, aged seven and one-half months.

January 25th, throat congested; temperature, 102° F. January 26th, large membrane on right tonsil; temperature, 102½° F. January 27th, exudate on both tonsils and between uvula and right pillar; temperature, 104½° F. January 28th, croupy; some pulmonary obstruction; râles over chest; temperature, 104½° F.; prostration came on, exudation in nose and lip and over fauces; cyanosis; temperature between 104° and 105° F.; dyspnœa. Death, February 5th.

Autopsy.—Softening, dark-colored membrane in larynx and trachea, extending into smaller bronchi. Moderate broncho-pneumonia in both posterior lower lobes, with general vesicular emphysema. Kidneys congested, with parenchymatous degeneration. Liver congested. Spleen firm.

Bacterial Examination, Morphological.—The pseudo-membrane was crowded in places with masses of cocci penetrating deeply into the underlying tissues. Here and there, but in no part very abundantly to be seen, were bacilli having the form and size of the Bacillus diphtheriæ, either in clusters by themselves or scattered among the cocci.

Cultures.—From the membrane grew on the plates large numbers of colonies of the Bacillus diphtheriæ (Loeffler). Enormous numbers of Streptococcus pyogenes and many of Staphylococcus pyogenes aureus. From kidneys, spleen, and liver were cultivated Streptococcus pyogenes in considerable numbers, and nothing else.

Case XI.—Female, aged ten and one-half months. February 13th, throat congested, with minute exudate on both tonsils; temperature, 102 to 105.2° F. February 14th, A.M., posterior surface of uvula covered with membrane; serous discharge from nose; temperature, 101.8° F. to 103.6° F. P.M.; membrane covers both tonsils and spaces between pillars and uvula. February 15th, croupy; increasing obstruction; albumin sixty per cent. by vol. Died.

Autopsy.—Voluminous membrane in pharynx and over epiglottis, extending down to the lower bronchi; no pneumonia, but moderate congestion of posterior portions of lungs. Kidney, parenchymatous degeneration; spleen enlarged and soft; liver normal.

Bacterial Examination, Morphological.—Large numbers of intermingled short bacilli and cocci in pseudo-membrane and penetrating underlying tissues.

Cultures.—From the membrane there developed on the plates small numbers of colonies, proving on subsequent tube cultures to be the Bacillus diphtheriæ (Loeffler), but their growth was meagre. Enormous numbers of Streptococcus pyogenes developed, and many of Staphylococcus pyogenes aureus. Cultures from kidneys, liver, and spleen were negative; those from the lungs showed a very few colonies of the Staphylococcus pyogenes aureus.

Animal Experiments.—Guinea-pig died on second day with characteristic lesions.

Case XII.—Female, aged nine months. February 18th, throat severely congested; hoarse; temperature, 102° F. February 19th, minute dots on both tonsils; croupy; laryngeal obstruction; increasing temperature, 104 F.; intubation. February 20th, exudation on both tonsils, extreme prostration; temperature, 105° F. February 21st, membrane covering both tonsils and uvula; breathing labored; dulness over both lower lobes; temperature, 104° F. February 22d, death.

Autopsy.—The larynx was covered with a thin, closely adherent pellicle, extending throughout the trachea and into the second branches of the bronchi. Broncho-pneumonia in posterior portions of both lungs. Kidneys show marked parenchymatous degeneration, as does also the liver; spleen large and soft.

Bacterial Examination, Morphological.—Large numbers of cocci, single and in large clusters, in the superficial and deep layers of pseudo-membrane. No bacilli could be found.

Cultures.—From the membrane were cultivated the Bacillus diphtheriæ (Loeffler) in moderate numbers; large numbers of Streptococcus pyogenes and many colonies of Staphylococcus pyogenes aureus, albus, and citreus. The lung cultures showed many streptococci, and a very few staphylococci and Loeffler's bacillus. On the spleen and liver cultures a few colonies of streptococcus grew. The kidney cultures were negative.

Animal Experiments.—Inoculation of medium-sized guinea-pig with sediment of four days old beef-tea culture of the Loeffler bacillus caused death on second day, with characteristic lesions and growth of the specific germ from the seat of injection; no growth from the blood or viscera.

We have thus, in this series of twelve wholly uncomplicated cases of diphtheria, found the Bacillus diphtheriæ (Loeffler) in eleven, and, as is usual, only at the seat of local lesion. A streptococcus having the characters of Streptococcus pyogenes was also present in the pseudo-membrane in eleven of the cases; in the kidney in three; in the liver and spleen in three. The Staphylococcus pyogenes aureus was present in the membranes in eleven of the cases; in the kidneys in one; in the liver and spleen in one. No other bacteria were present with any uniformity or marked abundance in any of the cases.

My own observations are quite in accord with those of Loeffler in regard to the occasional occurrence in both the healthy and diseased pharynx of streptococci, which are in many respects different from the Streptococcus pyogenes. These occasional forms have not been considered in this study, nor the scattering species of other kinds, since they do not seem to come within the scope of the subject in hand.

Nor have I given here the details of technique, since it was in all respects similar to that employed and sufficiently fully described in my former paper.

More and more clearly it appears, as such studies accumulate, that there is one large and important class of cases of pseudo membranous inflammations constantly associated with a particular species of micro-organism, the Bacillus diphtheriæ of Loeffler, which stands in a causative relation to the disease. That a streptococcus often plays a very important, though most likely a secondary, rôle in these cases, seems certain. Equally certain is it in the writer's belief that other classes of cases, often grouped with these and often lacking distinguishing clinical features, are caused by a streptococcus closely similar to, if not identical with, Streptococcus pyogenes, and called the Streptococcus diphtheriæ.

Sufficient evidence has now at last accumulated along the lines of work indicated, so that we are justified, in the writer's opinion, in giving that precision to the problems grouped about the cause, prevention, and treatment of pseudo-membranous inflammations, which has so long been wanting.

We are now, it would seem, justified, as it did not appear to the writer that we were two years ago, owing to the large number of important researches which have been made in the interim, in saying that the name diphtheria, or at least primary diphtheria, should be applied, and exclusively applied, to that acute infectious disease, usually associated with a pseudo-membranous inflammation of the mucous membranes, which is primarily caused by the bacillus called Bacillus diphtheriæ of Loeffler. That this disease is often modified in its course and manifestations by the presence at the seat of local lesion and elsewhere of other pathogenic bacteria, must be assumed as probable. That other forms of acute infectious diseases exist associated with a pseudo-membranous inflammation of the mucous membranes, and caused by wholly different germs, is, as it seems to me, also fully established.

But if the name diphtheria can be universally and exclusively applied to the disease caused by the bacillus of Loeffler, and the latter be regarded as the test of diagnosis, we shall be in a condition to work with definiteness at the various accessory problems, and study more clearly diseases which cluster about and complicate, and not infrequently simulate, the more common and important and fatal disease.

What this class of diseases not caused by or associated with the Loeffler bacillus should be called in distinction from diphtheria, it will perhaps not be possible to say until more extended researches shall have been made upon them, and the specific conditions under which they occur are more definitely known.

It should be clearly held in mind by those eager to draw from experimental studies on the etiology of this disease such practical lessons as shall be of value in treatment, that whether one or more causative agents are at work in setting up those acute infectious diseases which are associated with the formation of a pseudo-membrane, it seems to be fully established that in all of the cases the seat of infection and the origin of the mischief is always a local one. All these experiments point to the paramount importance of efficient local germicidal treatment, and this is equally important whether the bacillus of Loeffler, or the streptococcus, or both together be the infecting agent.

It is the complicating broncho-pneumonia and the systemic poisoning which carry off a large proportion of the victims of pseudo-membranous pharyngitis and laryngitis. That the pneumonia is largely dependent, in many cases, at least, upon the streptococcus, which is so frequently present, seems pretty well established. How much of the systemic affection is due to the streptococcus when this is present in the membrane and in the viscera, as is so often the case, and how much to a poisonous material absorbed from the seat of growth and development of the Loeffler bacillus in the local lesion, it is not possible at present definitely to say. That the poison locally produced by the Loeffler bacillus can and usually does alone cause the characteristic systemic effects in primary diphtheria, is well established.

It seems to the writer that a simple "Liquet" may be uttered on this subject, not as Loeffler [1] believes when such experimental results as seem at the first sight to be out of harmony with his conclusions "shall have been shown to be incorrect," but when they shall be judged on the basis of a definite nomenclature and apart from the thrall of a too limited conception of the nature of those acute infectious diseases which have not a wholly definite characteristic and constant local lesion.

NOTE.—A new and most interesting and important study of eight cases of diphtheria by Welch and Abbott [2] of the Johns Hopkins University, which I regret not to be able to consider in detail has been published since this article was sent to the RECORD. These observers found in all of their cases the Bacillus diphtheriæ of Loeffler. All of their cases were from private practice, and their studies were made from bits of membrane removed during life. Welch and Abbott have determined, contrary to the observation of most of the continental experimenters, that the Bacillus diphtheriæ grows on potato. Their article contains an interesting summary of the later studies on the systemic effects of the poison developed in the growth of this germ, and the conference of immunity by the method of Fraenkel and Behring, to which I can only refer. I am pleased to notice that the critical estimate of Welch and Abbott of my earlier studies, leads them to regard the difference of result obtained from that of most of the continental observers, as due to the peculiar nature of the cases which, as I have indicated in this article, seem to be not primary diphtheria but dependent upon the complicating conditions under which the cases occurred.

NEW YORK, March 10, 1891.

Hospital Graduate Club in Philadelphia.—The ex-resident physicians of the Pennsylvania Hospital have organized an association of which Dr. William Hunt has been elected president. A handsome portrait of Dr. James H. Hutchinson has been presented to the association.

[1] Loeffler: Deutsche Med Wochenschrift, February 6, 1890, p. 111.
[2] Welch and Abbott: Bulletin of the Johns Hopkins Hospital, vol. ii., No. 11, 1891.

LUPUS OF THE NOSE AND THROAT—DEMONSTRATION OF CASES UNDER THE KOCH METHOD OF TREATMENT.[1]

BY CLARENCE C. RICE, M.D.,

PROFESSOR OF DISEASES OF THE NOSE AND THROAT, POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL.

KOCH has given to the study of lupus a fascination which is hardly surpassed by the present intense interest in the new method of treating pulmonary tuberculosis.

Koch, tuberculosis, and lupus are the three words at present most often heard in the conversation of medical men.

Whatever of curiosity concerning the pathology of lupus had subsided after the experimental investigations of eight years ago, has been more than revived with the advent of the Koch method of treatment. All physicians are so thoroughly acquainted with the results of the recent studies of lupus and tuberculosis, and they have followed the treatment of these diseases with such intelligent interest, that I fear I shall be able to add little to the knowledge of the gentlemen of this Society. We can hope only to place before you the results of the patient researches concerning the pathology of lupus which have been conducted during the past decade, and to add our small mite of experience gained by the good fortune of having the opportunity to study the clinical aspects, and to observe the results, in the treatment of two cases of lupus by the Koch method.

All literature in regard to the pathology, all opinions and theories as to the etiology of lupus, published prior to 1882, are to-day of little value in view of the much more positive knowledge we have of this disease. A new era was begun when Koch [2] in 1882, announced the discovery of the tubercle bacillus, and demonstrated its presence in lupus nodules as well as in diseased pulmonary tissue.

The identity of lupus and tuberculosis was suspected, and the belief that lupus was a localized tubercular process of the skin was held, before Koch's positive knowledge was published to the world.

We may speak of Friedlander [3] as among the foremost to assert that lupus of the skin was a tubercular process. His opinion was based upon the fact that he found lupus nodules to be, microscopically, composed of the same histological formation as tubercular tissue; both resembling granulation tissue and composed of small spheroidal and giant cells. Vidal and Leloir,[4] too, made many microscopical examinations of lupus tissue, and they reported that these nodules were "composed of small cells in the midst of a very delicate network, and each enclosed by a wreath of embryonic elements interspersed with giant cells," and "that these cells are aggregated into primary nodules which again are brought together so as to constitute secondary nodules, exactly like tubercular follicles."

But the controversy as to the relation between lupus and tuberculosis was not, and probably never would have been, satisfactorily settled, so long as investigators argued only from a standpoint of knowledge obtained by microscopical study. Most microscopical appearances which have been considered characteristic and specific of a single pathological condition, have eventually been found to be present in several types of diseased tissue. The giant cell which was thought to be peculiar to tubercular growth, is now found in lupus and hard chancre, and the caudated cell of carcinoma is no longer an infallible guide to diagnosis.

Nevertheless it was a long step in advance when it was demonstrated that, microscopically, lupus and tubercular tissue could not be separated one from the other. Dela-

[1] Read before the Society of the Alumni of Charity Hospital, February 10, 1891.
[2] Koch: Die Aetiologie der Tuberkulose, Berl. Klin. Wochensch., 1882, No. 15.
[3] Friedlander: Ueber locale Tuberkulose, Volkmann's Klinische Vorträge, 1881, No. 31.
[4] Vidal and Leloir: Journal of Cutaneous and Venereal Diseases, New York, vol. i., p. 349, 1883.

field and Prudden [1] say, "The morphological character of the lesion long ago led to the conjecture that lupus was in reality a form of tubercular inflammation, and the view has now become established by the numerous observations which show the very constant presence of the tubercle bacillus at the seat of inflammation." Senn [2] puts the matter concisely in the following words: "The advance in our knowledge of the etiology of tuberculosis, the discovery of the bacillus, and the production in animals of tuberculosis by the implantation of lupus tissue, have finally settled the identity of tuberculosis and lupus."

If it were necessary to multiply the evidence showing that lupus and tuberculosis are occasioned by the same pathogenic germ, we could cite the experiments of Schüller,[3] who injected fragments of lupus tissue into the circulation of animals, and invariably produced pulmonary tuberculosis; and of Koch [4] himself, who inoculated the anterior chamber of the eye of eighteen rabbits from tissue derived from five lupus cases, and produced in all tuberculosis of the iris, followed in a number of instances by general tuberculosis. These same experiments were done also by Doutrelepont [5] and others. Koch [6] was able to procure a pure culture of the bacillus of tuberculosis from a lupus nodule, and produced typical tuberculosis in five instances by the inoculation of the fifteenth generation of this culture, one year after the first inoculation.

If we fully accept Koch's conclusions, we must believe that all pathological processes are tubercular wherever the bacillus is found; and most authorities have met on this common ground. Green,[7] in his most simple and clear article on lupus and tuberculosis, says: "The constant presence of an organism in association with a specific type of disease, is very strong evidence of an etiological connection between the germ and the disease."

In addition to the fact that there is this striking similarity of histological structure in the tissues of lupus and tuberculosis, and that the presence of the tubercle bacillus can by painstaking search nearly always be demonstrated in lupus nodules, and again, that artificial tuberculosis can be produced by the inoculation of cultures derived from lupus, there is still another point of evidence corroborating the intimate relationship of these two diseases, viz., that persons suffering from lupus are particularly liable to contract, late in life, pulmonary tuberculosis.

Dr. George H. Fox, of this city, tells me that his observations confirm this fact. This is also substantiated by Demme,[8] who speaks of the prevalence of tubercular affections among the relations of those who suffer from lupus. Rassdnitz,[9] who tabulated 209 cases of lupus, found that one-third of them presented evidences of tuberculosis; and Bessnier [10] found pulmonary tuberculosis in eight cases out of thirty-eight cases of lupus.

Dr. Felix Block [11] gives some valuable statistics. He tabulated 144 cases of lupus and found that 114 of these, seventy-nine per cent., were affected with some form of tubercular disease, either prior to, or following the attack of lupus, and the author therefore concludes that lupus is a chronic tubercular disease of the skin. Among these 144 cases he observed one each of lupus of the pharynx and larynx.

And lastly, and perhaps as strong a proof of the identity of lupus and tuberculosis as any we have mentioned, we can state this evening, as our own experience, that in the undoubted case of primary lupus of the pharynx and larynx which has been presented to this Society, the most marked benefit has been produced by the inoculation of the Koch fluid, suggesting that the disease which we call lupus is a localized tuberculosis, and is influenced by the parataloid of Koch.

It is right to consider for a moment the opinions of those thinkers who have not been convinced by the discovery of the tubercle bacillus. Kaposi contends that the identity of the bacillus of lupus and of tuberculosis is not proven. In a dignified article just written by Jonathan Hutchinson,[1] this careful observer says, speaking of the pathology of lupus vulgaris: "It may be that the process takes its origin as a variety of inflammation and is induced by any one of many local causes of irritation." "This latter theory," he adds, "by no means wholly excludes the influence of the parasite, for it is easily conceivable that a certain condition of local irritation may be the almost necessary precursor of the implantation of the parasite;" and he states this to be his belief rather than that the tubercle bacillus is the sole etiological factor in lupus. He adds, as his clinical experience "that there is nothing less common than to see a patient suffering with lupus pass into phthisis." Microscopical and bacteriological study have, too, cleared away very much the mists which have surrounded our knowledge of the pathology of the scrofulous diathesis. The term scrofula will be but little used in time to come, and we shall not hear frequently of scrofulous inflammation of mucous membranes. Perhaps the term lupus will be discarded from dermatological text books, and Senn's [2] classification, placing lupus under the heading and as one of the types of the several "Clinical Forms of Surgical Tuberculosis," be more generally followed. It is quite probable that we shall speak, not of lupus, but in its stead of a tuberculosis of the face or of the larynx.

Before speaking of lupus of the nose and throat—the title of this paper—it has seemed important to clearly understand the pathology of cutaneous lupus, because we shall expect that lupus of the mucous surfaces will depend upon the same causative factors for its existence. As is perfectly well known, lupus of the mucous membrane of the respiratory tract is very rarely primary, but almost always secondary to lupus elsewhere, most frequently of the face. Garré,[3] writing in 1889 of a case of primary lupus of the pharynx and larynx upon which he performed the operation of pharyngotomy, says that in all German literature there is only one well-authenticated case of primary lupus of the larynx, that of Ziemssen.[4] It will be noted, therefore, that in nearly all the cases the diagnosis of lupus of the nose and throat has been made less difficult by the significant presence of cutaneous ulceration. There are one or two general considerations, in regard to the pathology and etiology of lupus of the nose and throat, to be noticed before we speak of these diseases more in detail, and the following questions seem urged upon us: If lupus is a localized tubercular process, why do we not give to its manifestation in the throat the name of pharyngeal or laryngeal tuberculosis? We might do so at once, were we not hampered by the fact that we are using these very terms to define a pathological condition of the throat which differs in a marked degree from lupus of the throat, as we have observed this disease, both as to physical appearances and clinical history. Which one of these two processes, then, should be called tuberculosis of the throat? or are they both properly designated by this name? And if they are both exhibitions of a tubercular process, why are they so unlike? And being one and the same disease, why are we exhorted to exercise great diagnostic skill that we may differentiate lupus of the throat from

[1] Delafield and Prudden: Pathological Anatomy and Histology, p. 548.
[2] Senn: Surgical Bacteriology, p. 162.
[3] Schüller: Untersuchung über die Entstehung und Ursache der Scrofulos und Tuberkulos. Gelenkleid, 1880.
[4] Koch: Mittheilungen aus dem Kaiserlichen Gesundheitsammel, B. ii., 1883.
[5] Doutrelepont: Die Aetiologie des Lupus vulgaris. Proceedings International Congress, Copenhagen.
[6] Koch: loc. cit.
[7] Green: Pathology, p. 331.
[8] Demme: Lupus und Tuberkulos, Würzburger Med. Blatt, 1880.
[9] Rassdnitz: Zur Aetiologie des Lupus vulgaris, Viertel Jahrsschrift, Dermat. und Syph., 1882.
[10] Bessnier: Le Lupus et son Traitement, Annales Dermat., 1883.
[11] Block: Kemische Beiträge zur Aetiolog. u Path. des Lupus, Viertel Jahrsschr. f. Dermat. u. Syph. 1886.

[1] Hutchinson: Lancet, January 17, 1891.
[2] Senn: Surgical Bacteriology, p. 172.
[3] Garré: Primari lupus des Kehlkopf operation, etc. Klinik zur Tübingen, München Med. Woch., December, 1889.
[4] Ziemssen: Encyclopäd. Med., vol. vii., p. 848.

the disease we know so well as tuberculosis laryngis? We should like to be a little clearer on these points, and understand the relationship of these hitherto widely separated diseases, and see if they could not be brought together into the same family. It is my belief that such a reconciliation will be an easy one, and that the widely varying physical appearances and clinical aspects of these two forms of disease are not difficult to explain. I would designate lupus of the throat as a chronic localized tuberculosis, and to the disease we are in the habit of calling "laryngeal tuberculosis," I would give the name acute or subacute general tuberculosis. Fraenkel[1] says "that cutaneous lupus is a tubercular affection of a peculiar character, and in its clinical symptoms but little similar to other tubercular changes, and that it impresses one as a peculiar, unique disease, and it cannot as yet be definitely stated what the causes are for these differences in the clinical attitude of ordinary pulmonary tuberculosis and lupus."

We have always experienced the same difficulty in explaining the difference clinically between a lupus ulceration and a tubercular ulceration of the throat, but, granted that one is a localized deposit and the other a general one; that one is a chronic process and the other an acute one—that one form of disease occurs in comparatively healthy people, and the other in patients dying of pulmonary consumption; is not the different conduct of these two inflammatory processes rationally explained? Let us keep the extremes of these three conditions in our minds. Lupus of the throat attacks a somewhat congested mucous membrane; tuberculosis a pale one; lupus shows strong tendency to the formation of new-growth, and after ulceration has taken place, its endeavor to repair is evidenced by extensive granulation; while a tubercular deposit breaks down before anything like stable tissue can be built up, and there is not sufficient vitality to make much attempt to restore the loss of tissue. Lupus leaves cicatrices, tuberculosis very rarely does so. The ravages of lupus are often deep, because the infiltration is deep and the new-growth extends still deeper, and consequently, when the ulcerative stage is reached, the whole structure gives way. The ulcerations of tuberculosis are superficial, because the deposit is near the surface and has no power to work inward. We must spend no more time here, but it has seemed wiser to us at the outset to endeavor to explain the different behavior, under opposite conditions, of what we believe to be the same inflammatory condition, rather than later on to formulate a fictitious differential diagnosis between lupus and tuberculosis of the throat.

Now, as to the clinical aspects of lupus of the nose and throat. Lupus of the nose is of far less interest to us than lupus of the pharynx and larynx, because, as a rule, it presents few symptoms and gives but little annoyance to the patient. It is almost always secondary to lupus of the cutaneous surface of the nose, and extends to the mucous membrane directly from the skin. I have seen three cases, all of them following ulceration of the skin of the nose. In all the process was very slow, and the damage done was not extensive. In two there was perforation of the septum, and in the third ulceration upon the septum, which probably destroyed it at a later period.

The pathological conditions of lupus of the nose are undoubtedly the same as of lupus of the throat, and I have had an opportunity of watching the different stages of this inflammatory process. First, the stage of infiltration or deposit, marked by slight congestion of the mucous surface, but by considerable thickening and tumefaction; this infiltrated tissue is apt to break down quickly, but the ulcerations are slow to increase in size or depth. The ulcerations are found both on the turbinated and septal sides of the nostrils. The covering of these ulcerations by thick, darkish-brown scabs, as spoken of by Hebra,[2] Kaposi, and others has been marked in the cases I have seen. These scabs become hard, thick, and rigid, and produce sometimes uncomfortable fissure of the nose. The same tendency to a heaping up of pale, friable granulation points, is a distinguishing feature of the pathology of nasal lupus. This stage may be noticed in one portion of the nose, while in another ulcerations bare or covered by scabs may be seen. Patients suffering with this disease will notice blood on their handkerchiefs, but epistaxis is not a common symptom. My patients suffered but little pain; there was an uncomfortable burning, but they referred this rather to the ulceration of the integument. I should say, be suspicious of the presence of lupus of the nasal mucous membrane, whenever a patient suffering from lupus of the skin of the nose is annoyed by nasal obstruction, or notices a bloody discharge. Rhinologists do not have frequent opportunities of studying lupus of the inside of the nose, as these cases go to the dermatologists for treatment. If we would examine all the cases in wards devoted to diseases of the skin, I dare say we might find that lupus of the integument of the nose extended beyond the muco-cutaneous junction more frequently than we now suppose. I have examined five cases of lupus of the outside of the nose during the past week, but in none of them had the disease extended to the mucous surface. Block,[1] whose statistics I have already quoted from, found that in 135 cases of lupus, the process was either primary or extended to the mucous surfaces in 14 instances; in ten of these the nasal mucous membrane was attacked, in two the conjunctiva, and in one each the pharynx and the larynx. Facial erysipelas is not an infrequent complication of lupus of the nasal mucous membrane, just as it is in a fissured condition of the nasal lining from any cause. Dr. Van Santvoord[2] gives the history of a case of lupus occurring in a boy aged fourteen. The disease commenced in the nose. The ravages of the ulceration were extensive, destroying the nose, hard and soft palate, and attacking the larynx; the boy died of meningitis after an illness of five days. I do not think it necessary to give in detail the histories of my three cases of nasal lupus; they all occurred in women. In two, the lupus commenced at the fourteenth and seventeenth year, and in the case presented this evening, at the fourteenth year. The diagnosis of this condition, should it occur primarily upon the nasal mucous membrane, would not be easy. Syphilitic ulcerations are attended by much greater evidence of inflammatory action, the process is much more rapid, the stenosis greater, the discharge muco-purulent. The history of the case, and the benefit or not derived from anti-syphilitic treatment, are points to aid us. The characteristic mounds of granulation tissue point to lupus, and with such an appearance we should naturally search for the tubercle bacillus. The effect produced by the administration of the parataloid will be a strong differential point. The patient presented this evening, suffering from nasal lupus external and internal, has had lupus of the integument of the nose for twenty-two years, and lupus of the nasal mucous membrane so long at least as I have had charge of the case, now two years. I had been unable to materially benefit the condition of the inside of the nose, though I had tried all manner of astringents, caustics, iodoform, etc. She has taken iodid. potas. at various times, and in large quantities. Dr. G. H. Fox, who has also treated her, was unable to heal the ulceration of the integument. Inoculations of the parataloid were commenced January 2, 1891. She has had twelve in all; there has always been a reaction following each inoculation, as shown by redness of the surface of the nose and slight rise in the temperature, once as high as 101⅕° F. The improvement has been rapid and marked. The ulcerations, internal and external, have almost entirely healed, and thus far there seems to be no tendency to recurrence.

Lupus of the throat stands next for our consideration,

[1] Fraenkel: Grundriss der Bakterienkinde, p. 326.
[2] Hebra: Sydenham Soc., London, 1875, p. 65.

[1] Block: loc. cit.
[2] Van Santvoord: New York Medical Journal, December 5, 1885.

and by throat I mean the pharynx and larynx. Lupus in this location is of far greater importance, both pathologically and clinically, than lupus of the nasal mucous membrane. It is a disease of great pathological interest, because it may occur primarily in the throat, or if the throat is attacked after lupus nodules have appeared on the skin, it is an independent deposit, and not, as in the nose, a simple extension of the ulcerating disease. It is of great pathological interest, because of the great difficulty in recognizing it and in separating it from syphilis, tuberculosis, and malignant disease. Clinically, lupus of the throat is of greater importance, perhaps, than lupus upon any other portion of the body; because, although slow and insidious in its behavior, it destroys most important parts. It needs to be studied carefully. Although a rare disease, we shall find quite enough literature concerning it; and it will be no easy task to separate the chaff from the wheat. We shall be helped only by those writers who state carefully the points upon which their diagnoses have been made, and who give an intelligent and faithful picture of the appearance of this variety of ulceration.

Chiari and Ruhl[1] did a great service when, in 1882, they collected all the cases of lupus of the larynx which had been published up to that date. They tabulated but 30, the first 4 having been observed by Türck,[2] and published in 1866. This publication stimulated Holm,[3] of Copenhagen, to examine the larynges of all patients suffering from cutaneous lupus. His observations extended from 1866 to 1877, and he saw 6 cases of laryngeal and pharyngeal lupus out of a total number of 106. At the skin clinic of Vienna it was found that eight per cent. of all lupus patients had ulcerations upon the throat—6 out of 68 cases. Hashund,[4] writing in 1883, had tabulated his cases from 1866, and had seen, up to 1882, 215, among which number he had found 15 cases of laryngeal lupus, about seven per cent. Lennox Browne[5] observed 3 laryngeal and 3 pharyngeal cases among 25 of lupus, about twenty per cent. If from these figures we strike an average, we shall find that about twelve per cent. of all cases of cutaneous lupus have secondary deposits in the throat. And Hunt,[6] of Liverpool, says if we add to this number those cases involving only the mucous membrane of the upper air-passages the average will be brought up to nearly twenty per cent., or one-fifth of all cases. We believe this average to be too high; nevertheless, it is probably true that many cases of lupus of the integument have lupus of the throat, and this latter lesion passes unnoticed. Ziemssen[7] remarks that many cases of cutaneous lupus had hoarseness and laryngeal cough.

Browne, of London, saw more cases of lupus of the throat in a single visit at a skin hospital than he had seen in twenty years of private practice. With the advent of the Koch method of inoculation for the treatment of lupus, we shall undoubtedly hear of a much larger number of cases in the future than we have in the past.

I had no idea of reviewing the literature of lupus laryngis until I saw the patient I have presented this evening; and in describing the pathological conditions of this disease I shall be obliged to make use of this case for my text. This is the only case of undoubted lupus of the larynx I have seen. I believe I have examined one more case, though I did not recognize it as such at the time. I often wonder, were we to be carried back to "Old Charity," if we could not find among its prolific pathology almost any rare disease we wished. Reference to the books of those days would, alas, be of little use, so many of the histories were written, the acquaintance of the patient never having been made; but I remember having seen peculiar cases of ulceration of the throat. The leprosy cases were there then. But I digress. Enough has been said concerning the etiology of lupus of the throat, except to add that the average age of Chiari's tabulated cases was twenty-one years, which tallies very closely with figures given by other writers. There were sixteen females and seven males, the sex of seven not given.

If we are agreed to put down the tubercle bacillus as the exciting cause, we can mention only traumatism and the tubercular diathesis as the predisposing causes. As to the pathology, when I first examined my case the

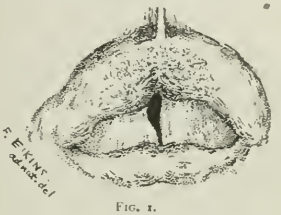


Fig. 1.

appearance of the epiglottis impressed me most. It was different from any epiglottis I had ever seen—thickened, infiltrated, of a higher color than the turban-shaped epiglottis of phthisis, and less red than an epiglottis acutely inflamed by a syphilitic ulcer. The surface was granular, almost nodular at places, the small projecting points looking very soft and friable, as though they could be rubbed up like bread-crumbs between the fingers. The entire thickness of the epiglottis appeared as if composed of this soft tissue. The destruction of the epiglottis down to the glosso-epiglottic ligament, with the fissure in its centre, could hardly be due to the usual tubercular ulceration. Healing after such destruction we have not seen in laryngeal tuberculosis occurring with pulmonary consumption, and there was none of the hard, brawny induration of syphilis with its deforming cicatrices. The sides of the cut-off epiglottis were adherent to the lateral walls of the pharynx, but this seat of adhesive inflammation presented none of the rigid, unyielding coalescence we are familiar with in syphilis, and was in itself a strong differential diagnostic point against a tubercular process. Perhaps three-fourths of the calibre of the glottis was closed by the same kind of granular infiltration about the arytenoids and the sides of the larynx. The figure (Fig. 1) of the larynx which I should like to present to the

Fig. 2.

Society, and which was drawn from an examination made some two weeks ago, shows the condition very well, and it will be noticed that the laryngeal opening is considerably larger to-night than it was at that time. The arytenoids were but slightly movable, and one presented a convex surface to the concave surface of its fellow, an unusual kind of infiltration; the vocal bands were hidden beneath the overhanging sides of the larynx, which seemed built up in a true perpendicular line. The dyspnœa was much less than we should have expected from the amount of occlusion, and there was no dysphagia. The voice was a husky whisper. The ulcerations about the pharynx were next noted, and they have changed

[1] Chiari and Ruhl: Lupus Vulgaris Laryngis, Viertel Jahrsschrift für Dermat. u. Syph., Heft 4, 1882.
[2] Türck: Klinik der Krankheit. des Kehlkopf, 1866, p. 425.
[3] Holm: Lupus Affectionen, etc. Bonn Dissertation.
[4] Hashund: Viertel Jahrsschrift f. Dermat. u. Syph., Heft 3, 1883.
[5] Browne: Diseases of the Throat, p. 366.
[6] Hunt: Journal of Laryngology and Rhinology, September, 1889.
[7] Ziemssen: loc. cit.

considerably since the first inoculation of the parataloid (Fig. 2). The ulcerated surface presented the same friable appearance as did the epiglottis, except that the small shining tubercles were more elevated than upon the epiglottis; the ulceration was superficial as in tuberculosis, but was not covered by the grayish muco-pus seen in that disease, while the surrounding tissues were of a much more healthy color. There was, however, too much of the worm-eaten appearance about the ulcerations to remind one of the ulcerations of syphilis. The posterior pillar on the right side was matted down and inseparable from the posterior wall of the pharynx, but it did not, as in syphilis, look as though one surface had become adherent to the other, but rather as though the two surfaces had grown into each other by a process of slow infiltration and sluggish ulceration. There was ulcerated surface on the middle wall of the pharynx, but it healed after the first few lymph injections, and has left but little cicatrization.

The only points in the history of my case, of any value to my paper, are the following: Miss W——, aged twenty, native of New England, seems to be in good health but not robust. Father died of apoplexy, mother living, and in good health. She has one brother who was said to be scrofulous, and threatened with consumption. Patient has never had serious illness. She lost her voice four years ago, whereas the nodule on the side of the nose appeared last spring, so that the primary seat of the disease is the throat. There has never been pain about the throat. The patient was very kindly referred to me by Dr. A. M. Phelps. Dr. G. H. Fox pronounced the nodule on the side of the nose to be one of lupus; and I have received the following microscopical report of specimens taken from the ulceration of the nose:

"I have examined some of the discharge from the lesion on the side of Miss W——'s nose, microscopically. Cover-glasses were pressed directly against the sore, and afterward treated with Ziehl's carbol fuchsin stain for tubercle bacilli. Careful investigation revealed the presence of a few tubercle bacilli in the preparations.

"JOHN H. LINSLEY,
"*Laboratory, Post-Graduate School.*"

This patient has received thus far eleven injections of the parataloid. The first three were one half a milligramme each—the largest dose administered was three milligrammes. The reaction was very irregular, the highest temperature following an inoculation being 101⅕° F. There have been no symptoms of discomfort following the administration of the parataloid. The effect of this treatment has been to reduce in a remarkable way the amount of infiltration of the larynx. The arytenoids have been relieved of much of the load of superimposed granulation tissue, and now move much more freely. After the first few inoculations the swellings on the sides of the larynx had disappeared so much that the vocal bands could be seen, and it was found that they were intact. The patient's voice is almost normal and the breathing easier. In this case I have witnessed more than in any other the beneficial effects of the Koch fluid.

How do the pathological appearances presented by this case compare with those observed by other writers? Türck [1] says that there were ulcerations and loss of tissue upon the epiglottis in all his cases, and in describing the granulations so typical of this disease he says they are "wart-like when large, but produce simply unevenness of surface when small." Türck depends mostly upon the accompanying skin lesion for diagnosis, but this was in 1866.

Lefferts,[2] of New York, who published an interesting case of lupus of the throat in 1878, says the essential pathological element is hypertrophy of tissue, hyperplasia, and infiltration, followed by ulceration. The epiglottis in his case was much hypertrophied and covered by minute fleshy granulations. He places emphasis on the "worm eaten" ulcerations and the granular epiglottis. In his case, like mine, the larynx was blended into one mass of homogeneous tissue. Unlike Lennox Browne's pathology, we have not in our case the hard and unyielding cicatrization following ulceration.

Hunt,[1] of Liverpool, who seems to have seen a number of cases, emphasizes what he calls the anæsthesia of the larynx, and we have mentioned this symptom in our patient—entire absence of pain, in spite of the thickening and ulceration. Gottstein, Orwin, and others mention this, and say that the symptoms are slight and not at all in proportion to the physical appearances. Absence of pain, however, is not a constant symptom, for there was dysphagia in the cases observed by Lefferts and Asche. Browne speaks, too, of the solid infiltration of the uvula, a condition well marked in my case. A strong differential point mentioned by a number of authorities, and strikingly illustrated by my case, is the limitation of the disease to the supra-glottic region, the disease extending only to the vocal bands. For this reason the voice returns very rapidly when the infiltrated tissue above the vocal bands becomes absorbed. I find, however, some exceptions to this rule, for in a few cases there has been destruction of the vocal bands. Hunt, whom I have quoted before, says: "In time all the structures of the larynx may be involved."

Eppinger [2] speaks of the "dry base of the ulcers in lupus," and in Ganghofner's [3] case there was the same adhesion between the epiglottis and the lateral walls of the pharynx which was observed in mine.

Adhesion between the anterior ends of the vocal bands, noted in two of the recorded cases of laryngeal lupus, I have seen in tuberculosis of the larynx, but it is a much more characteristic lesion of syphilitic ulcerations.

I have no comment to make upon the statement that the involvement of bone is a conclusive test between syphilis and lupus. Lupus certainly attacks bone very rarely. Hunt, however, states that there was necrosis of the nasal bones in one of his cases. I am pleased to find that Browne mentions the appearance which was so noticeable in my case, that the stenosis of the larynx was due to a "matting together of the tissues."

Auspitz [4] claims a singular pathological condition for lupus occurring on mucous membrane: that "destruction may take place from simple atrophy, and that scars may be left without ulceration."

But I must hasten to a close. The differential diagnosis between lupus, tuberculosis, and syphilis of the throat has always been a subject of much controversy, but the writer of to-day can mention two factors which go far toward solving the difficulty, and which will not be found in literature of any age: first, the diagnostic value of the presence of the tubercle bacillus, and second, the effect on the disease of the Koch treatment. This latter will go hand in hand with anti-syphilitic treatment as a diagnostic point. In the larynx we believe it to be more difficult to diagnose lupus from tuberculosis than from syphilis. But this will depend upon which stage of the disease is studied. In the early part of the disease, the infiltration of lupus, the granular appearance of the mucous membrane, the color, and even the superficial ulcerations, are much more like tuberculosis than like syphilis, Lupus is much slower in its progress than tuberculosis; it very rarely attacks the vocal bands until late in its course, while tubercular ulcerations show a marked preference for the true cords. If, however, the larynx is left deformed by deep ulceration and thick rigid bands of scar tissue (and I have not seen this condition), then we can understand that it may be exceedingly difficult to exclude the ravages of syphilis. We shall, however, be called

[1] Türck: loc. cit.
[2] Lefferts: American Journal of the Medical Sciences, April, 1878.

[1] Hunt: loc. cit.
[2] Eppinger: Klebs Handbuch der Path. Anat., 7 Heft., p. 162
[3] Ganghofner: Prag. Med. Wochensch., 1880, No. 37.
[4] Auspitz: System des Handbuch. Wien, 1881.

upon to diagnose few lupus ulcerations of the throat which are unaccompanied by lupus of the skin.

It is our opinion that the use of the parataloid, which seems to have a more marked effect upon lupus than upon any other disease, will be of positive service in excluding syphilis from lupus of the throat; whether it will aid us in separating lupus from tuberculosis we must wait longer to ascertain. My experience thus far indicates that a much greater reaction is obtained in lupus than in tuberculosis, probably for the reasons stated early in this paper, that one is a local and the other a general infiltration, and that the condition of the patient is much better in one than in the other disease.

In passing, I cannot refrain from alluding to the totally different effect of the Koch fluid in my case of lupus of the larynx from the results of similar treatment in cases recorded in Europe. In a number of instances, as we read, the occlusion of the larynx, which was considerable before the treatment was commenced, was so much increased after the first two inoculations that tracheotomy was performed. In my case, although the congestion of the mucous membrane was obviously heightened, there was a rapid and uniform decrease of the infiltration and a corresponding improvement in breathing and voice. Tracheotomy was performed twice under such conditions by Professor Gerhardt, and we read of another such operation in a case treated by Dr. J. Michael,[1] of Hamburg.

Turck [2] speaks of the difficulty, and sometimes the impossibility, of differentiating lupus of the larynx from leprosy of the larynx. I do not share his opinion. I saw three cases of leprosy of the larynx at Charity Hospital, in 1878. They were in the service of the late Dr. Louis Elsberg, and were published in the MEDICAL RECORD.[3] In all three the pathological condition was very much alike—large, hard, warty nodules over the epiglottis and sides of the larynx, much larger and coarser than in lupus. I should say that it was as easy to differentiate these two diseases when occurring in the throat as when seen upon the skin.

I have not thought it of value to this paper to cite the little peculiarities of the many individual cases of lupus of the throat which may be found in the current literature, nor to allude to the discussion which followed the presentation of the cases of lupus of the throat before the American Laryngological Association [4] by Drs. Knight, of Boston, and Asche, of New York. During the study of this literature I have been impressed with the fact that Americans are good observers, and can clearly state clinical appearances.

In conclusion, let me repeat the following points, which I hope I have made apparent in my paper:

1. That the discovery of the tubercle bacillus in lupus nodules and the demonstration that artificial tuberculosis can be produced by the injection of a bacillar culture obtained from lupus tissue are strong proofs of the identity of lupus vulgaris and tuberculosis.

2. That lupus of mucous membranes is of the same histological formation as cutaneous lupus. And as the tubercle bacilli have been found in lupus of the throat this disease probably bears the same relation to general tuberculosis as does lupus of the integument.

3. That we believe lupus of the throat to be a chronic localized tubercular process, while ordinary tuberculosis of the larynx is an acute or subacute general tubercular process.

4. That lupus upon mucous membranes occurs in about twelve per cent., or one-eighth, of all cases of lupus vulgaris.

5. That the diagnosis of laryngeal lupus is not difficult, because it usually is accompanied by lupus of the skin.

6. That in primary lupus of the larynx the two most important factors in diagnosis are the discovery of the tubercle bacillus and the effect of the injections of parataloid on the disease.

7. That while marked benefit has been derived in the case of lupus laryngis, which forms the basis of this paper, we must wait longer before deciding whether the large hopes which have been entertained by the medical profession, of curing lupus and tuberculosis by the Koch method of treatment, are to be realized.

[1] Deutsch. Med. Wochenschrift, January 8, 1891.
[2] Turck: loc. cit.
[3] New York MEDICAL RECORD, January 4, 1879, p. 1c.
[4] Trans. Am. Laryng. Assoc., 1881.

A CASE OF HYSTERICAL AORTA.

BY SARAH E. POST, M.D.,
NEW YORK.

THE patient was a woman of about thirty-five years of age, the mother of two children, the youngest six years of age—no intervening miscarriage. The last menstruation was about December 25, 1890. About the first of February, or following the first missed period, the patient was seized with vomiting, accompanied by great prostration. She went directly to bed. She was profoundly depressed even at this time. I should have mentioned, perhaps, that while she was apparently well nourished the patient had already evinced some lack of vascular control. She had a flush over the check-bones which almost amounted to an appearance of hectic. She had had, too, a noticeable swelling of the thyroid in the fall of 1890, which had subsided after a month's treatment. The patient continued vomiting, but she supposed herself suffering simply from the vomiting of pregnancy, and a doctor was not immediately called in. In the latter part of February there commenced an almost constant spitting of mucus and blood. The gastric intolerance continued. The local medical man was now summoned, and physical examination revealed, in addition, an easily defined epigastric tumor. A consultation was requested, and two other physicians were called in. One of these was a Bellevue Hospital man. I could add that the other two consultants were also men of liberal education and hospital experience. I simply mention this fact to show the deceptive character of the case. Three well-educated medical men pronounced this a case of gastric cancer. The evidence was gastric intolerance, spitting of mucus and blood, profound depression, suppressed menstruation, cachexia, and a tumor in the epigastrium. I neglect to say that this tumor was distinctly lifted with each pulsation of the aorta. Stethoscopic examination, however, failed to reveal any evidence of aneurism, and the pulsation was supposed to be due to the fact that the aorta was overlaid by the mass. The patient, then, had cancer of the stomach. Operative measures were out of the question, her depression was so great. The family were made acquainted with the decision, and an over-conscientious husband told the patient. It was at this stage, and after the complete withdrawal of hope, that I first saw her. The patient was being cared for by her home people, and I was sent for in the hope that my knowledge of nursing would enable me to suggest ways of making her more comfortable. The doctor consented to meet me, with this object in view. There was at that time no doubt in regard to the diagnosis in anybody's mind, no doubt in my own mind. The writer of this sketch had, however, *lived with* three patients who had died of cancer. She knew the physiognomy of the disease. Coming into the room she saw a desperately sick woman, but not a woman prostrated to that degree with cancer. She didn't look like cancer. That matter being settled, it became comparatively easy to hunt about for some other explanation of her condition. The tumor, of course, was a most important matter; but here, too, fortune favored her. The tumor, which rose up well into the field of examination, could be followed from the ensiform cartilage to the umbilicus, and from there still followed for about an inch to the left. It was cylindrical, it pulsated. I say fortune favored me at that first examination. Subsequently I examined the tumor when it was limited

to the epigastrium, and was apparently a rounded mass. Again I have found it only at the umbilicus.

I next, with the history of suppressed menstruation, examined by vagina, and found an enlarged, retroflexed uterus. Without more exact tests I ventured on the following diagnosis: 1. Pregnancy in a retroflexed uterus, with shock complicating the nausea and vomiting of this condition. 2. Shock and lack of nourishment producing loss of vascular tone, resulting in what may be called hysterical aorta. This condition I had heard described by the late Dr. E. D. Hudson, and I had once seen it at my clinic at the Demilt Dispensary, the diagnosis being sustained by the disappearance of the tumor under iron. I had never seen it as a complication of pregnancy. Dr. Anna Lukens has seen it once in an eight years' experience as resident physician at the Staten Island Branch of the Nursery and Child's Hospital.

The patient had now and then epistaxis, she had a pharyngitis, and her tongue was dry and cracked. It seemed easy to account in this way for her spitting of mucus and blood; but I quite failed to appreciate the gravity of this symptom. Improvement of the nutrition seemed to me peremptorily indicated; but my suggestions were limited to matters of food; they did not include iron. I did not realize that we had to deal with a profound cachexia, as pernicious in its special way as that of carcinoma in its. I instituted rectal alimentation with success. The retroflexed uterus was elevated, vomiting was controlled, so that a twenty-four hours' interval would be afforded, and the patient commenced to crave food, but without much gain in strength. The tumor disappeared, but the stomatitis and pharyngitis totally resisted control; the tongue ulcerated where it rested upon the teeth; the patient announced that she was unable to swallow; diarrhœa prevented further nourishment by enema; the pulse rose in frequency, and the patient died, after about four weeks of supporting treatment, consciousness being preserved until an hour from the last.

Autopsy showed no gross disease of the abdominal organs. The uterus was enlarged to a two months' pregnancy and showed the adherent chorion of a blighted ovum. The throat was not examined, but there was at no time any ground for supposing that the mouth and throat trouble was diphtheritic.

I am sorry not to be able to report the recovery of a case of simulated carcinoma ventriculi, but the teachings of the case seem to be clear. It is a mistake to allow the essential diagnosis to blind one to what are apparently minor symptoms. It is doubtful whether in this case iron could have been borne. It was, however, in the light of the *aenouement*, undoubtedly indicated; and that not in tonic doses, but in doses as heroic as those with which we fight erysipelas or diphtheria.

As to the pathology of hysterical aorta; it is shrouded in mystery. When examined by autopsy the aorta in this case had the ordinary calibre. I have noted the fact, however, that with the improved alimentation the tumor had disappeared a week before death. This patient had the hot hands and feet found with diminished vascular tone. She would uncover her feet in order to cool them, yet she at no time had a pyretic temperature; she at no time had sweats or chills. The urine is said to have been negative. In the light of the autopsy acute anæmia was the only factor which warranted a certificate of death. We can only surmise that in these cases a relaxation occurs in the walls of the aorta similar to that which is found in the skin and subcutaneous tissues in grave conditions. I am aware that this assumption suggests many interesting speculations, but it is the only one which I have to offer.

To Abort a Boil.—The ointment of the nitrate of mercury is said to be an excellent application in the case of a commencing boil or felon, its early use in most cases sufficing to prevent the formation of the furuncle.

Clinical Department.

A CASE OF PERSISTING HEMORRHAGE FROM THE CONJUNCTIVA OF A NEW-BORN INFANT, FOLLOWING THE INSTILLATION OF A SOLUTION OF NITRATE OF SILVER.

By G. E. DE SCHWEINITZ, M.D.,

OPHTHALMIC SURGEON TO THE PHILADELPHIA HOSPITAL.

It is well known that Credé's method of instilling a drop of a two per cent. solution of nitrate of silver into the conjunctival cul-de sac of the new born infant to prevent purulent conjunctivitis, sometimes is followed by hyperæmia and secretion of the conjunctiva, which usually disappears in a day or two. Very few instances are on record in which the reaction has assumed a dangerous type, and the enormous value of this prophylaxis of ophthalmia neonatorum has shown that its author's judgment of the strength of the silver solution was wise. A few cases are known in which hemorrhage from the conjunctiva has followed this treatment, and has been attributed to the action of nitrate of silver. A notable example of this kind was published by Dr. Pomeroy in the Medical Record for August 20, 1887. In his case the instillation of a single drop of a two per cent. solution of nitrate of silver, carefully done and without laceration of the conjunctiva, was followed by violent pain, some serous discharge which rapidly became tinged with blood, and gradually developed into "a slow, but persisting, oozing of blood, startling to observe." After treatment, consisting mainly of iced compresses and firm bandages, the hemorrhage stopped, but not before the condition of the infant was most alarming, and the hemorrhage so decided as to prove well-nigh fatal.

The following case occurred in the maternity wards of the Philadelphia Hospital: A healthy colored woman was delivered, at 7 A.M., of a female child. The birth was a rapid one, the delivery of the head and the rupture of the membranes being almost simultaneous. The liquor amnii was of a dirty-yellow color and thick consistency. A drop of a two per cent. solution of nitrate of silver was instilled after the manner of Credé. Three hours later there was redness of the eyes and some discharge. The resident physician then made a second instillation of two drops of a nitrate of silver solution, twenty grains to the ounce. This was carefully done, and there was no laceration of the conjunctiva. The eyes immediately were irrigated with a saturated solution of boric acid, a treatment which afterward was continued each hour. At eleven o'clock at night no purulent discharge was manifest, but a bloody serum began to exude between the lids. The next morning iced compresses and a lotion of alum, four grains to the ounce, were used. In the afternoon I saw the case, and found a fairly well nourished infant with persistent bleeding from the tarsal conjunctiva of both eyelids, the blood leaking out between the palpebral fissures, some of it apparently having found its way through the lachrymal canals into the pharynx, as the child vomited some blood-stained material. The alum collyrium was continued, but no bandages were applied. The next day the hemorrhage continued, and with considerable severity. The eyelids were puffed up and their under surfaces covered with a very tenacious clot. This was removed with forceps, and the hemorrhage seen to occur from numerous points in the form of a persistent oozing. The blood clotted readily. At the end of the third day the hemorrhage stopped, and the bloody discharge was replaced by a slight purulent secretion. A small linear ulcer formed near the edge of the cornea, which rapidly healed under the use of eserine. The child was somewhat shocked by the loss of blood, and the bodily temperature was maintained by the application of external heat.

The mother of this child was perfectly healthy, and never had experienced excessive bleeding herself. She knew of no member of her family who had been so af-

flicted It was not possible to interview the husband, but the wife stated that he had not been a "bleeder," nor, so far as she was aware, had there been any hæmophilic tendency in his family.[1] Examination of the blood-clot did not reveal any unusual composition. There was no scar in the conjunctiva, after it healed, to indicate that any injury had been done to its surface.

While it is not possible to prove that this child bled so persistently from the conjunctiva because of two drops of the silver solution, first of two and then of four per cent. strength, it is none the less true that the hemorrhage followed such applications, and, moreover, occurred not in association with the development of an ophthalmia neonatorum, as the original discharge, which appeared only three hours after instillation, seems more likely to have been of that character which has been noted in several instances as the result of the reaction produced by the nitrate of silver.

I am indebted to Dr. Frances C. Van Gasken for her intelligent care of this case, and to my colleague, Dr. Montgomery, for the privilege of having seen it.

SOME QUESTIONS ABOUT ISSUES AND SETONS.

By CYRUS EDSON, M.D.,

NEW YORK.

Twenty years ago practitioners of medicine held that the issue and the seton were curative procedures of great value. The writer well remembers having heard the virtues of these vaunted by old physicians (and old women). They were thought in some way to drain the system of its impurities—to afford a channel by which materies morbi could effect an egress or be drawn off.

While their use is an ancient one and based upon empiricism abundant evidence exists of their worth. Though we find favorable mention of them in medical works of to-day, nevertheless they are practically obsolete methods of cure, and owe their disuse to the refinement of modern medicine rather than to any lack of therapeutic power.

Now the question occurs, Does the discovery of the function of the phagocytes throw any light upon the action of the issue and the seton?

Metchnikoff has proved that the phagocytes are destroyers of noxious bacilli.

Do not the issue and the seton favor the production of the phagocytes by inducing suppuration?

Suppurative processes in some way increase the number of phagocytes in the blood.

May not ulcerative processes generally be efforts on the part of nature to effect the production of the phagocytes for curative purposes?

There has always been a deeply rooted prejudice against healing any chronic sore, and this feeling has been caused by the frequent occurrence of sickness after it has been done.

I have seen excellent results follow the use of the issue and the seton in several cases, two of which I will give.

Mrs. W——, about forty-seven years of age, a member of the writer's family, was subject for six years to severe attacks of facial erysipelas.

These occurred at intervals of six or eight months. An issue was ordered in accordance with old-time notions as a prophylactic measure, and was established in her arm by means of potassa fusa and an issue bead of orris root.

She never had another attack of erysipelas, remaining in perfect health for nearly twenty years, when she died of apoplexy.

Mr. G——, aged forty nine, was afflicted with recurrent attacks of ophthalmia.

The insertion of a seton in his neck was followed by immunity from the attacks, and I am informed by great improvement in his general health, which has continued for over ten years and to the present time. The seton has been kept running during the entire period and does not, he says, much inconvenience him.

The issue and the seton have been recommended by eminent surgeons, notably Ericksen and Gross, for beneficial effects in cases of joint disease before suppuration occurs.

Their action in these cases, as in those I have mentioned, seems to be something more than that of mere counter-irritants, and I believe that Metchnikoff's discovery enables us to account for it.

Have we done well to discard the use of the issue and seton?

[1] So far as the writer is aware no cases of hæmophilia have been described in the colored race.

URINALYSIS FOR SUGAR QUALITATIVE AND QUANTITATIVE.

By D. W. HOUSTON, M.D.,

TROY, N.Y.

Before prescribing for a patient complaining of loss of flesh, debility, thirst, and increase in micturition, an examination of the urine of the patient is the first important duty of the physician.

There is a method of chemical examination of the urine which gives approximately the percentage of sugar and fulfils all the requirements of a reliable test, which is, I believe, not as generally known as it should be. I refer to the liquor potassæ test, performed in the following manner:

To a quantity of urine in a test-tube one half of its volume of liquor potassæ is added. Then by heating the upper zone of this combination over the flame of a spirit lamp if sugar be present a change in color will be soon shown. The color first appearing will be canary yellow and will indicate, according to its intensity, one per cent. of sugar or less. After further heating the canary color will be displaced by an amber color and this will indicate two per cent. of sugar. The further addition of heat (if there be sugar enough present) produces a dark Jamaica rum color and this will show five per cent. of sugar; and should, after continuous boiling, the color become dark brown and the contents of the test-tube not transparent, then ten per cent. of sugar in indicated. Between the four standards of color here given there may be different gradations showing a greater or less percentage of sugar.

When once sugar is detected in the urine of a patient and treatment begun, the convenience of having a reference for comparison with the first or any subsequent testing is highly desirable, in order to determine the progress of the disease and the results of treatment.

The simplicity, beauty, reliability, and accuracy commend this test as the best for the qualitative and quantitative (approximative) examination of sugar in the urine.

The late Professor Ultzmann, of Vienna, depended almost entirely upon this test in his examinations for sugar, at the Poliklinik.

The Laughing Plant is the name of a plant growing in Arabia, and is so called by reason of the effect produced upon those who eat its seeds. The plant is of moderate size, with bright yellow flowers and soft, velvety seed-pods, each of which contains two or three seeds resembling small black beans. The natives of the district where the plant grows dry these seeds and reduce them to powder. A small dose of this powder has similar effects to those arising from the inhalation of laughing gas. It causes the most sober person to dance, shout, and laugh with the boisterous excitement of a madman, and to rush about cutting the most ridiculous capers for about an hour. At the expiration of this time exhaustion sets in, and the excited person falls asleep, to awake after several hours with no recollection of his antics.—*Medical Times.*

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & Co., Nos. 56 and 58 Lafayette Place.

New York, April 18, 1891.

TRAUMATIC NEUROPATHIES.

IF anything will stay the hand of the ubiquitous surgeon it must be some startling statement of facts to impress upon his mind the relative degree of heat in the frying-pan and the fire. As a rule the frying-pan is no hotter than the fire, and the ills we have may be more endurable than evils unknown and unimagined. Surgery, like other good things in and out of medicine, has definite drawbacks It is not an unmitigated good, for insignificant operations have been followed at times by disaster infinitely more deplorable than the original abnormity. Circumscribed injuries, even the delicate ones brought about by the surgeon's knife, may result in nervous complications of serious import. To cut or not to cut, is a graver question than has been supposed. While works on surgery, naturally the outcome of surgical minds, consider syncope, nervous delirium, and neuralgia the only neurotic complications that may arise from the use of the knife or the presence of wounds, these otherwise valuable books leave something to be desired. There is a surgical side to modern hysteria which it is well to take into account, if painful surprises for the surgeon and his patient are to be avoided.

The effect of slight accidents and disintegrating emotion in the production of neuropathics is considered in *Médecine Moderne*, February 12, 1891, by Dr. Casten, who gives several illustrations of sequelæ of magnitude following slight causes. Herbert Page, Erichsen, Weir Mitchell, Leudet, Lyden, Trossier, Lombroso, Charcot, and Paul Berbez have cited numerous clinical examples of a similar nature, and given to hystero-traumatism a definite place in literature. Less well understood and appreciated are the nervous complications of contused wounds, sprains, and the legitimate lesions of surgical origin that interfere with ordinary occupations but a week or two, and are, therefore, never thought of again except as trivial facts of the past. A woman, thirty-three years old, was knocked down by a milk wagon and dragged some twenty feet, receiving a slight contused wound about the left knee, and some bruises in the region of the left scapula and lower portion of the abdomen. There was no serious injury of any kind, yet within forty-eight hours epileptiform seizures set in at the rate of two a day for about a fortnight. At the expiration of two weeks all manifestations requiring surgical care had disappeared. Ten weeks the patient remained in bed, subject to epileptiform attacks that increased in violence as they lessened in number, rotation of the arms and legs inward, and flexion of the joints of the upper extremities becoming their marked characteristics. A history of earlier causeless mental depression and senseless fits of anger was elicited. Areas of circumscribed anæsthesia were found. Another case of the same order. A girl, of seventeen, was knocked down from behind, and run over lightly by a carriage she failed to see. Picked up in a generally confused and shaken-up condition, her only discoverable injuries were various ecchymoses about the thigh and across the abdomen. Two hours after the accident distinct mental excitement made its appearance, clonic spasm of the limbs followed, incontinence of urine and fæces, and loss of sensation in the right leg. A deep sleep, a sort of coma, set in and lasted for a week. From this somnolence the patient was roused four or five times daily by epileptiform convulsions. There were permanent multiple contractures, general anæsthesia, retention of urine, and loss of the power of deglutition, food being violently ejected. An aura expressed itself as a sensation of cold in the left arm. The tongue was bitten, the thumb drawn between the index and the middle finger, and there was complete unconsciousness during these attacks. Symptoms began to abate in about ten days. The patient then talked a little and could put the feet out of bed. A month passed before she could sit up in bed, prevented earlier by persistent pain in the lumbar region. Retention of urine and general anæsthesia kept up for weeks. After the girl had returned to ordinary health and the duties of life there was sudden spontaneous return of vesical paralysis and weakness in the lower limbs. This was doubtless a case of latent hysteria.

Other illustrative examples are given. In one instance a sprain of the wrist resulted in suppression of menstruation, which was active at the time, and in hysterical manifestations lasting a week. In another instance palpitation of the heart and nocturnal distention of the abdomen appeared as the result of a fall. A little girl, of five, hit her forehead while at play, the spot bleeding slightly. From this untowardness were evolved insomnia, nightmare, anorexia, and general nervousness. Another woman escaped being run over, neither horse nor carriage touching her. Fainting fits, attacks of fear and of tremor dated from this incident.

The author cited looks upon these conditions as forms of hystero-epilepsy. Tissot considers fear the most important cause of epilepsy. Many persons, hitherto exempt, fell victims to this disease during the dark days of the late Franco-Prussian War. The earthquake at Nice so shattered the nerves of many French visitors there at the time that any unusual strain later in their customary Parisian life served to render them speedily insane. Fear, accident, and injury, together or separately, are destructive elements that ought to be more recognized and appreciated as factors in disease. Usually in cases like the foregoing, hysterical stigmata will be present, as constriction of the visual field, hemianæsthesia, hysterogenic areas, and loss of pharyngeal reflex. Prognosis should always be guarded. Though classed as ephemeral, the troublesome nervous symptoms may persist or return. Epilepsy, vertigo, chorea, hypochondria, loss

of memory, general paralysis, and mental alienation resulting from destructive emotion or sudden injury may be permanent. Especially reserved should be medical opinion where circumscribed paralysis is followed by muscular atrophies that are not clearly defined.

It has been claimed that a neuropathic constitution underlies all conditions of results disproportionate to causes. Perhaps so, perhaps not. Such predisposition is often imperceptible before the advent of trauma. It is in each instance a medico-legal question of importance, for temperament should decide affirmatively or negatively a verdict of damages in any given case.

The treatment of neuropathies induced by trauma consists, primarly, in psychic aid, best given by the physician who can explain to the patient with more exactness than any other how utterly without reason for existing are his symptoms, in themselves mere unblessed memories of former jarrings. A literal change of environment is essential, together with rational therapeusis in the form of the bromides, the douche as given in France, and massage of the injured or affected parts. Prompt and vigorous measures are necessary, for abnormal neurotic habits are sometimes most difficult to overcome, and are always wide-reaching in their disastrous influence.

THE NAMES OF THE GRIP.

There is more in a name than Juliet would have us believe, and in medicine especially, we can often learn much concerning the nature and symptoms of diseases that have raged in epidemic form in past ages merely from the names that have been applied to them at different times, and by different peoples. A good example of this is furnished by the strange malady that has been travelling around the globe for the past eighteen months, and which we now call the influenza or grip. The word influenza is Italian, and means nothing more than influence. We find the term first employed in the writings of Huxham, who, in referring to the epidemic of 1743, speaks of a fever "quæ per totam Europam hoc vere sub nomine influenza grassata est." We see from this word how widespread was the affection, since of all epidemic diseases this especially was attributed to an atmospheric influence,[1] nothing less universal than the atmosphere itself being deemed capable of diffusing so widely the materies morbi.

On the other hand, the word "grip "(French, *la grippe*), which curiously enough was also first used in the epidemic of 1743, bears witness to the suddenness of the attack, for, although there is some uncertainty as to the derivation of this word, it comes most probably from the French *gripper*, meaning to seize or take suddenly. Other names indicating the suddenness of the seizure were "le horion" (the thump), applied to an epidemic in France in the fifteenth century, and "Blitzkatarrh," given by the Germans to another epidemic in 1781.

The predominance of catarrhal symptoms in many of the epidemics is shown by this last mentioned name, and also by the terms catarrhus epidemicus, synocha catarrhalis, febris catarrhalis epidemica, le grand rhume, etc., applied to the disease by many writers in the seventeenth and eighteenth centuries. "Russian catarrh" indicated not only the supposed nature of the affection, but also the region in which it was believed to be endemic, and from which the recurring epidemics were sent forth to visit Europe and America. An obstinate cough was a noticeable sequel to the disease in many of the epidemics, hence we find the names "tussis russa," "epidemic cough," "febris thoracica," "quinte," "coqueluche," "Schafhusten," etc.

An evil conscience is one's first accuser, and herein lies the reason why men have always regarded epidemics as the chastisements of an offended deity. And it is only within a short time that we have learned that sins against sanitary laws bring more speedy, and just as certain punishment as do offences in the moral order. The sufferers from influenza were of course, on the lookout for the sin which had brought the visitation upon them, and they usually found it, their only difficulty being in pitching upon the one sin most deserving of chastisement among the many to which they were given. In one epidemic occurring in Paris, which was called "the blow," it was believed that those only were attacked who had sung an indecent song that had happened to have a great popularity just before the outbreak of the grippe. So the poor sufferers had not only to endure the pains and discomforts of the disease, but also the jibes and reproaches of their dear friends for having been found out in the sin of singing the obscene ditty. History does not state that anyone regarded himself as unjustly punished for an offence he did not commit, and very likely there was none such.

There were many other names than those we have mentioned which were applied to the influenza in one epidemic or another, but most of them had only a local meaning, the significance of which has been lost to us. Among these we find the "dunce's malady," "pumpkin disease," "polite sickness," "Spanish pip," "new delight," "petite poste," "folette," "coquette," "the general," "fashionable fever," "turning disease," "flosse kolen," "Bürzelen," and "disease of the bald-heads." In the island of Martinique it was thought that the disease had been brought by the French soldiers, whence it was called "le chapeau quarré." Often the people gave up in despair any attempt to find an appropriate name for the affection, and called it simply "the epidemic," "the disease," "the disorder," and the like, terms about as definite and descriptive as "it," which was the appellation chosen by a medical writer in a neighboring city in a recent contribution to one of the New York dailies.

[1] This is the most commonly accepted explanation of the term, though some authorities refer it to a supposed influence of the stars, and the older Italian writers describe the disease as "una influenza di freddo."

A DISPENSARY PHYSICIAN'S RESPONSIBILITY.

Judge Roger A. Pryor, in his charge to the jury in a recent malpractice case, touched upon some points which are of especial interest to dispensary physicians. The plaintiff in the suit was a free patient who had been attended by the defendant for a miscarriage, and who claimed that she had not received proper attention from the physician and had suffered in health in consequence. The doctor visited his patient on the day of the miscarriage and on the two succeeding days, but never came afterward. It was claimed that the patient was still sick

and that the physician had no right to cease his attendance until she was cured. The Court held that when a physician engages to attend a patient without limitation of time, he cannot cease his visits except with the consent of the patient, or upon giving the patient timely notice so that he may employ another doctor, or, finally, when the condition of the patient is such that he no longer requires medical treatment. Of this condition the physician must judge at his peril. The defendant claimed that he had given timely notice to his patient that he was about to leave town and that she must get another physician. This was denied by the plaintiff, and it was left to the jury to decide the question of fact.

The woman was a charity patient, being treated gratuitously by the physician whom she sued, but this fact, the judge charged, could in no respect qualify the liability of the doctor. "Whether the patient be a pauper or a millionnaire, whether he be treated gratuitously or for a reward, the physician owes him precisely the same measure of duty and the same degree of skill and care. He may decline to respond to the call of a patient unable to compensate him; but if he undertake the treatment of such a patient, he cannot defeat a suit for malpractice, nor mitigate a recovery against him, upon the principle that the skill and care required of a physician are proportioned to his expectation of pecuniary recompense. . . . Even though, therefore, the defendant was not to be paid for his attendance, he was still bound in law to treat the plaintiff with the requisite skill and the requisite care."

But the patient has obligations as well as the physician, and in this case the woman had disobeyed the orders of the doctor to keep quiet and had risen from her bed and gone into another room. Concerning this fact it was charged that the patient must obey the orders and follow the directions of the physician, and that she could not hold the physician responsible for the consequences of any disobedience or failure to follow such directions. And in this case, therefore, Judge Pryor charged the jury that they should find for the defendant if the evidence showed that the plaintiff's own neglect or carelessness concurred in causing her injury. He also charged that a careful distinction should be made between the results of the miscarriage and those of treatment. The physician was in no way responsible for the miscarriage but only for his management of the case subsequently. It was for the jury to determine whether the injuries of which the patient complained were due to the miscarriage or to maltreatment by the doctor, and if they were due to the former solely then the verdict must be for the defendant, since he could make no contract to cure, but only to exercise due skill and care in his treatment of the case.

It seems to us that this ruling was a fair one. A physician must, of course, give proper attention to his patient, and treat him with due skill, and the size of the prospective fee makes no difference in this regard. But, on the other hand, and this is a point, we think, that is not always sufficiently insisted upon, the patient must do as he is told or he cannot claim damages for maltreatment. If this were more generally known and insisted upon there would be fewer malpractice suits, and patients might also be more careful to obey to the letter the injunctions of their medical advisers—a double gain to the hard-working physician.

News of the Week.

Poisoning by Wild Parsnip.—It is reported that twelve children were poisoned one day last week, in a Pennsylvania town, by eating the root of the wild parsnip plant which they found in a field where they were playing. Three of the children died in convulsions.

An Ossified Man Broken.—An ossified man, who had been exhibited in many places around the country, was being carried up-stairs in his home in this city the other evening when the cot was tipped up a little and he rolled off down the steps. When picked up it was found that he had fractures of the right thigh, left leg, and index finger of the right hand.

Dr. Marcus S. Hayne, of Unionville, N. Y., died in that town on April 8th, seventy-five years of age. He was graduated from Geneva Medical College just fifty years ago, and was one of the oldest members of the Orange County Society. For a number of years he held the office of postmaster in Unionville.

A Proposed Pan-American Medical Congress.—Dr. Charles A. L. Reed, of Cincinnati, has indicated his intention to introduce at the meeting of the American Medical Association at Washington, resolutions to the following effect, viz., 1. That the American Medical Association extend an invitation to the profession of the republics and colonies of the western continent to assemble in this country in an International American Medical Congress. 2. That the Committee on Nominations be instructed to nominate one member for each State and Territory and one each for the Army, Navy, and Marine Hospital Service, to constitute a committee to which shall be referred the time, place, and permanent organization of the proposed congress. Dr. Reed argues that there are sound reasons why such a congress should be held. Learning always follows in the wake of commerce. The development of politico-commercial relations between this country and those of Latin America must be followed by interchange of literature and science. Medicine will be pushed forward by necessities arising out of commerce. The questions of naval hygiene, quarantine, epidemiology, etc., arouse a communal interest between the countries of the two Americas on all subjects which could come before a medical congress. Interests of medical education might also, he believes, be reciprocally conserved by bringing the Anglo-Spanish profession closer together. Dr. Reed's personal correspondence with distinguished medical men of Central and South America shows the existence of a favorable disposition there toward the proposed congress.

The Kansas Medical College has graduated a class of twenty-three.

The Bellevue Hospital Medical College Commencement was held in the large hall of the Carnegie Laboratory on March 30th. There were one hundred and fifty-two graduates, and the address to the class was made by Professor A. A. Smith. A reception followed the exercises. On the evening following occurred the annual dinner of the Alumni Association of the College at the Hotel Marlborough.

The Sale of Tuberculin Forbidden.—The Bavarian Government has forbidden the sale by druggists of tuberculin, in Bavaria. Even physicians cannot buy it.

Meetings of State Medical Societies in May.—The Medical Society of the State of Washington, Seattle, May 6th, 7th, and 8th; Missouri State Medical Association, Excelsior Springs, May 12th, 13th, and 14th; Indiana State Medical Society, Indianapolis, May 13th, 14th, and 15th; Kansas Medical Society, Wichita, May 13th, 14th, 15th, and 16th; Illinois State Medical Society, Springfield, May 19th, 20th, and 21st; West Virginia State Medical Society, Fairmont, May 20th, 21st, and 22d; North Carolina State Medical Society, Asheville, May 26th, 27th, and 28th; Connecticut Medical Society, Hartford, May 27th, 28th, and 29th; Kentucky State Medical Society, Lexington, May (date to be fixed).

A Question of Anatomy and Expert Evidence.—A physician of Trenton, N. J., was recently adjudged guilty of contempt of court for refusing, when on the witness stand, to answer the question: "How many ribs are there in the human body?" The doctor insisted that it was a technical question, which he was not obliged to answer, because he had not received a fee for expert evidence. His counsel sustained him in the position, but the judge decided that the reason for declining to answer was not good.

Medical College Commencements.—There have been so far 33 college commencements, with 1,384 graduates: Buffalo University has graduated a class of 83; Taylor University, 13; Texas Medical College, 2; Omaha Medical College, 8; Rush Medical College, 189; Georgia Medical College, 53; Detroit Medical College, 48; Tennessee Medical College, 18; Columbus Medical College, 40; The Chicago Woman's College, 30; South Carolina Medical College, 15; Marion Sims Medical College of St. Louis, 35; National Medical College, District Columbia, 24; St. Louis Medical College, 68; The Atlanta Medical College, 80; Michigan College of Medicine, 27; Georgia Woman's Medical College, 7; The Iowa University Medical College, 21; The Kansas City University Medical College, 30; Grant University Medical College, 13; Keokuk Medical College, 3; The Southern Medical College, 36; Long Island College Hospital, 82; Fort Wayne College of Medicine, 13; The St. Louis College of Physicians and Surgeons, 68.

American Association for the Advancement of Physical Education.—The sixth annual meeting of this association was held in Boston, April 3d and 4th, Dr. D. A. Sargent presiding. Numerous papers were read, and one hundred and sixty new members were elected. The next annual meeting will be held in Baltimore.

Politics and Tuberculin.—The editor of *The Post Graduate* says there seems to be some politics in tuberculin, Professor Virchow representing the Liberal and anti-Reichstag side, and the adherents of the Hohenzollern family the other. We hardly mean this seriously, but that is somewhat the appearance this subject presents, looked at from three or four thousand miles away.

The Medical Education Bill has been defeated in the Missouri Legislature.

The Fifty-ninth Annual Meeting of the British Medical Association will be held at Bournemouth on Tuesday, Wednesday, Thursday, and Friday, July 28, 29, 30, and 31, 1891. The President is Dr. W. F. Wade, of Birmingham. An address in medicine will be delivered by Thomas Lauder Brunton, M.D., F.R.S. An address in surgery will be delivered by John Chiene, M.D., F.R.C.S. Ed. An address in public medicine will be delivered by Edward Cox Seaton, M.D.

Koch's Remedy Abandoned.—The Medical Faculty of the University of Bonn has abandoned the use of both Koch's and Liebreich's "remedies" for tuberculosis.

Another Death from Typhus Fever occurred at the New York Hospital on April 12th. The patient was a homeless and friendless Hungarian, who had been in this country but two months, and who doubtless brought the infection with him from abroad, probably from Hamburg.

An Outbreak of Tuberculosis among cattle in Putnam County, this State, has excited some alarm and awakened the activity of the local and State health boards.

The National Association of Railway Surgeons will convene at Buffalo, N. Y., Thursday, April 30, 1891. This is a change of one week from the time previously announced, the change having been made so as not to conflict with the dates covered by the meeting of the American Medical Association.

At the last Meeting of the Trustees of the Journal of the American Medical Association, it was resolved to move the Journal from Chicago to Washington. By subsequent resolution, however, it was determined to leave the matter open until a vote could be had by the members at the May meeting.

Dr. Roswell Park has, it is stated, accepted the chair of Surgery in the Rush Medical College, Chicago.

Dr. Joshua Otis Stanton, one of the best known physicians of Washington, died suddenly, April 9th, of pneumonia superinduced by the grip, after a very brief illness, aged fifty-three years. Dr. Stanton was a native of New Hampshire, and graduated in medicine from Bowdoin College. He went to Washington in 1861, and served throughout the war, rising to the rank of Major.

Dr. Hiram H. Hitchcock, of Highland Falls, N. Y., aged thirty-three, died suddenly of heart disease April 9th.

Body-snatching.—From Wheeling, W. Va., comes the unpleasant news that a reputable local physician, Dr. John R. Pipes, has been accused of body-snatching. We trust the charge is not true. Body snatching is an unpleasant business, and argues a certain unfortunate disproportion between natural sensibility and anatomical enthusiasm. In olden times body-snatching was in a measure necessary, and when judiciously carried out upon the bodies of those who died without relations, was a help to science. At present there is no excuse for it in most States.

The Roll of the Medical Profession.—The annual register of British physicians shows a total of 29,163 names. Since the previous year 467 have died, giving a mortality rate of 15 per 1,000, two names were erased for non professional conduct, and only seven retired from practice. Doctors all die in the harness.

Reduced Fare to American Medical Association.—The Baltimore & Ohio Railroad will sell round trip tickets to delegates and their friends who will attend the Annual Convention of the American Medical Association at Washington, in May, at rate of one and one-third fare. Delegates travelling via Baltimore & Ohio Railroad can obtain reduced rates of transportation by securing from the ticket agent from whom they purchase their tickets to Washington a certificate certifying to the amount paid and the route travelled. This certificate, when countersigned by the railroad representative who will be present at the Convention in Washington, will enable the holder to procure a ticket for his return journey at one-third the regular first-class limited fare.

Hospital for Contagious Eye Diseases.—The following is awaiting its passage before the New York Legislature: An act to provide for a hospital for the treatment of contagious eye diseases in the city of New York. It authorizes the Board of Estimate and Apportionment to furnish a building for such hospitals, situated not south of Fourteenth Street nor north of Fifty-ninth Street, and not to exceed $100,000 in price if the building is purchased, or a rental of not to exceed $5,000, if rented. A building may be constructed for such hospital, the cost of which shall not exceed $100,000. There shall be a board of managers of such hospital, consisting of seven doctors, to be nominated by the Council of the New York Academy of Medicine and appointed by the Mayor. The hospital is to be under the general care of the Health Department, which shall provide for the necessary attendants, supplies, etc. There shall be two house surgeons to be appointed, at $50 a month each, who shall be in constant attendance at the hospital. The Health Department shall include in its annual estimates to the Board of Estimate and Apportionment the expense of conducting this hospital, and such Board is directed to allow the same under their rules. The Comptroller shall issue bonds, when directed by the Board of Estimate and Apportionment, for the cost of the building. Introduced by G. P. Webster, Int. No. 1,044. Referred to Cities Committee.

Congress of American Physicians and Surgeons.—The meetings of the Congress of American Physicians and Surgeons will be held in Washington, from 3 to 6 P.M., September 22, 23, 24, and 25, 1891. William Pepper, Chairman of the Executive Committee.

National Board of Medical Examiners.—At the suggestion of Dr. William Perry Watson, Secretary of the New Jersey Board of Medical Examiners, Dr. Rauch has called a meeting of one or more representatives of the various medical licensing boards in the United States, to be held in Washington, D. C., on May 6th, at the time of the meeting of the American Medical Association, in order to effect a permanent organization and to make their rules and examinations as uniform as possible. Licensing boards now control medical practice in twenty-one States. It is expected that much good will come of this meeting.

A Blow at Dime Museums.—A bill is before the Pennsylvania legislature "prohibiting the exhibition of physical deformities, infirmities, and maladies as a source of pecuniary gain." We doubt very much the wisdom of such a bill. The desire of ordinary humanity to see the freaks of Nature enables many unfortunate people to gain a comfortable livelihood. The fat man, the giant, the pigmy, the lady with a horse's mane, the girl who sews with her toes, and the ossified man are probably incapable of supporting themselves by any of the ordinary means. Without the dime museum or the travelling show they would lead a dependent and perhaps impoverished existence. As objects of public interest they not only earn a livelihood but probably experience a certain degree of pleasure in the wonder they excite. This may not be a very high type of feeling but it is innocent and perhaps it is even less harmless than that which the belle feels over her figure or the beau over the fit of his clothes, or the politician over the newspaper glorifications of his statesmanship. We incline on the whole to take the part of the Dime Museums and the freaks. There should at the most be only a prohibition of such deformities as are physically painful, or of such as are produced artificially for purposes of show.

Charges Against American Physicians.—*Punch*, in a pathetic little poem anent the life of the physician, speaks of

"Living hysterical scandals down"

as one of the concomitants on medical practice. Dr. Lovelady, of Nebraska City, appreciates this fact, for he has just been acquitted of a charge of criminal assault brought by a hysterical girl. He is the fifteenth American physician so acquitted in as many months.—*Medical Standard.*

The Grip has continued to prevail in this city with but little apparent abatement, though with only moderate severity. Its reappearance in England is now reported.

Dr. Thomas H. Manley, of this city, has been appointed the New York examiner of candidates for service as internes in the Mercy Hospital of Pittsburg, Pa.

Patent Medicine Legislation Killed.—The Delaware bill, forbidding the sale of patent medicines unless the formulæ employed in their composition be printed on the wrapper, has been defeated.

The Wisconsin Legislature is not very favorable to the medical profession. All medical practice acts have been defeated, and the bill providing for coroners' expert fees will share the same fate.—*Medical Standard.*

The Nebraska Medical Practice Bill has become a law.

Progress in the South.—The Montgomery Medical Society (Ala.) has unanimously adopted resolutions favoring a consultation with homœopathists and eclectics. The matter will be brought up in the State Association, at Huntsville, May 4th.

University of Michigan.—Dr. James N. Martin has been appointed Professor of Obstetrics and Diseases of Women. He filled the chair since Professor Dunster's death.

Influenza on a Troopship.—A British troopship recently arrived at Plymouth from India, having on board a large number of soldiers whose terms of enlistment had expired, nearly all of whom suffered from the influenza during the voyage. The surgeon of the ship reported that there were two hundred cases within a fortnight, none of them, however, resulting fatally.

A Poor Field.—Scott County, Kansas, has but one physician, and he is now compelled to leave because of the following conditions: but one natural death has occurred during the past year; obstetrical cases and accidents happen but infrequently; and the atmosphere is so pure, and the people so generally healthy, that even an ordinary living cannot be made by one practising the healing art. The population of the county is given at 1,260.

The New Medical Law in Alabama.—The "Penalty Bill," which recently passed the Legislature, gives Alabama a model medical law, and places the State Medical Association on a safe and sound basis. The penalty bill, as it passed the Legislature, provides that any person practising medicine or surgery in this State, without having first obtained a certificate of qualification from one of the authorized Boards of Medical Examiners of this State, shall be guilty of a misdemeanor, and on conviction thereof shall be fined not less than $25 nor more than $100. Provided, that this act shall not apply to any doctor practising medicine in Alabama who is a graduate of a reputable medical college, and who has complied with the law by having his diploma recorded by the Judge of Probate in the county in which he is practising.

The Treatment of Influenza.—Dr. Oren Oneal, of Wabash, Ind., writes: "As this disease is again becoming epidemic in many parts of the country, and in many places is attended with great fatality, I desire to lay before the readers of the MEDICAL RECORD what I have found to be a most successful treatment. I have discarded the use of quinine, antipyrin, antifebrin, and all remedies of that class. The two latter I regard as too depressing on the heart's action, and I believe that it will be found that those who were treated with these remedies last year are the ones who are dying this spring with the second attack, with pneumonia, etc. I now rely entirely on the different preparations of ammonia, using a formula containing: Ammonii chloridi, ammonii bromidi, spts. ammonii arom., liq. ammon. acet., and syrup. Sometimes I add a little spts. frumenti. The quantities in the above formula are left to the prescriber's judgment. The effects of this treatment are often magical, all the disagreeable symptoms disappearing in a very short time."

Reviews and Notices of Books.

TEXT-BOOK OF HYGIENE. A Comprehensive Treatise on the Principles and Practice of Preventive Medicine from an American Standpoint. By GEORGE H. ROHÉ, M.D., Professor of Obstetrics and Hygiene in the College of Physicians and Surgeons, Baltimore; Director of the Maryland Maternité; Member of the American Public Health Association, and of the French Society of Hygiene, etc. Second Edition. 8vo, pp. 421. Illustrated. Philadelphia and London: F. A. Davis.

PROFESSOR ROHÉ'S book needs no introduction. The first edition was rapidly exhausted and the book justly became an authority to physicians and sanitary officers, and a text-book very generally adopted in the colleges throughout America. It is compact, of extensive scope, clearly and entertainingly written and has the special recommendation of being written by a very able man from an American stand-point. Consequently it is of unusual value to the American reader. The second edition is a great improvement over the first, all of the matter being thoroughly revised, much of it being rewritten and many additions being made. The size of the book is increased one hundred pages. The chapters on the "Germ Theory of Disease," "Contagion and Infection," and "Antiseptics, Disinfectants, and Deodorants," are unusually able and of great value. Their study will repay every reader. The chapter on "Naval Hygiene" was revised by Medical Director A. L. Gihon, United States Navy, and that on "Quarantine" by Surgeon Walter Wyman, of the United States Marine Hospital Service. These names alone vouch for their authority. The book has the additional recommendation of being a handsomely-bound, clearly-printed octavo volume, profusely illustrated with reliable references for every branch of the subject matter.

A COMPEND OF DISEASES OF CHILDREN, Especially adapted for the Use of Medical Students. By MARCUS P. HATFIELD, A.M., M.D., Professor of Diseases of Children, Chicago Medical College; Physician to Wesley Hospital, etc. With a colored plate. Pp. 185. Philadelphia: P. Blakiston, Son & Co.

THIS is one of Blakiston's very excellent series of Quiz-compends. It is based on Kormann's well-known work and supplemented by the author's knowledge, gained after a long and successful practice. Students and even practitioners will find it a valuable little book.

THE "J. E. M." GUIDE TO DAVOS-PLATZ. Edited by J. E. MURDOCK, F.R.G.S. Member of the French Alpine Club, with Analytical Notes on the Food, Air, Water, and Climate, by Phillip Holland, Analytical Chemist, etc. Fourth Edition, brought up to date. Pp. 154. Illustrated. London: Simpkin, Marshall, Hamilton, Kent & Co., Limited.

AHE book is a very complete guide to the now famous Elpine resort so much in favor among consumptives. Tverything that a patient would want to know is given not only accurately and concisely, but in a very entertaining manner.

MEDICAL NURSING; LECTURES DELIVERED IN THE ROYAL INFIRMARY, GLASGOW. By J. WALLACE, M.D. Physician to the Royal Infirmary and Lecturer on Medicine, Queen Margaret College, Glasgow; Honorary Associate Grand Prior of the Order of St. John of Jerusalem in England, Fourth Edition. Pp. 224. James Machelhose & Sons, Publishers to the University, Glasgow.

THIS handsome volume has had a deserved popularity, and now reaches its fourth edition. It consists of a series of lectures on the principles and methods of nursing. It is invaluable to the nurse, and its chapters on disinfection, care, and ventilation of the sick room will be found exceedingly useful to the physician. Like all work of the Machelhose press it is a model of typographical art.

LEHRBUCH DER ALLGEMEINEN UND SPECIELLEN PATHOLOGISCHEN ANATOMIE FÜR AERZTE UND STUDIRENDE. Von Dr. ERNST ZIEGLER, Professor der pathologischen Anatomie und der allgemeinen Pathologie an der Universität Freiburg in Baden. Zwei Bände. Sechste neu bearbeitete Auflage. Zweiter Band. Specielle pathologische Anatomie. Mit 435 theils schwarzen, theils farbigen Abbildungen. Jena: Gustav Fischer, 1890.

THE last edition of this well-known treatise once more attests the diligence and good judgment of its author. Ziegler's pathology is probably now the leading work on this subject. The illustrations really illustrate, and the text lacks the customary verbosity of German authors. Long theoretical discussions on moot questions do not clog the pages of this practical text-book.

Transactions of the Mississippi State Medical Association for 1889

The papers presented cover the usual range of topics, and show that our Southern brethren are fully abreast of the times. The paper on "Fever, with Special Reference to Thermogenesis," is worthy of special mention.

Practical Examination of the Urine. By James Tyson, M.D., etc. Seventh Edition. Philadelphia: P. Blakiston, Son & Co. 1891.

No physician needs to be told of the necessity of having this book at hand for constant reference. It easily holds first place among the many manuals of its class. Seven editions are its most eloquent defence. The use of two sizes of type in the present volume still further improves its value as a working book.

The Treatment of Consumption by Koch's Method. By A. E. Bridger, M.D., etc. London: John Hogg. 1891.

In these pages, which can be read in an hour, the author describes his journey to Berlin, what he saw there, his observations of nearly two hundred and fifty cases, and, lastly, his personal experiences as a tuberculin patient. Titles of chapters are: "The Enemy, the Bacillus Tuberculosis;" "The Champion, Dr. Koch;" "The Arena and the Combat;" "Success or Failure," etc. From this it is seen that the book is written for patients rather than for physicians. He does not regard the bacillus in the same etiological light as does Koch. His figures and statistics do not materially differ from those which have been published elsewhere. He believes in the remedy, but would confine its use to those cases in which there is comparatively little disease. A cavity does not necessarily contraindicate its use if the pulmonary tissue remaining is in a fair state of preservation. His ideas concerning the proper care of a case, apart from the injections, are eminently sensible. Dr. Bridger's pages are rather attractive reading, though his conclusions differ in certain particulars from what is generally accepted.

Wood's Medical and Surgical Monographs. February number. Contents: "The Clinical Use of Prisms and the Decentering of Lenses," by Ernest E. Maddox, M.B.; "Electricity in the Treatment of Uterine Tumors," by Thomas Keith, M.D., LL.D. Edin., and Skene Keith, F.R.C.S. Edin.; "Ether Drinking, its Prevalence and Results," by Ernest Hart, Editor of *British Medical Journal*. Pp. 512. New York: William Wood & Co.

The table of contents of the February number of Wood's popular monographs is evidence that the book is a valuable addition to medical literature. The subjects are of practical value, and the authors are men of international reputation. The article on "Electricity in the Treatment of Uterine Tumors" is a report of one hundred and six cases treated by Apostoli's method. The results are remarkable, and the article is deserving of careful consideration.

Principles of Surgery. By N. Senn, M.D., Ph.D., Milwaukee, Wis.; Professor of Principles of Surgery and Surgical Pathology in the Rush Medical College, Chicago, Ill.; Professor of Surgery in the Chicago Polyclinic; Attending Surgeon to the Milwaukee Hospital, etc. Illustrated with 169 Wood Engravings. Pp. xiii., 611. Philadelphia and London: F. A. Davis.

This is Dr. Senn's greatest work. He recognized the need of a modern work on the principles of surgery in the English language. Progress in the knowledge of the etiology and pathology of surgical diseases has been so rapid in the past decade that recent works on the subject are not up to the times. In the matter of practical information, as, for instance, the symptoms of any particular disease, they may be exceedingly complete and valuable; but in treating of the fundamental principles of the art, and the science of surgery, they are wofully deficient. Dr. Senn has supplied the deficiency. He has given the profession the principles of surgery, and one who has mastered these will have no difficulty in applying his knowledge in practice. One gratifying feature of the book is one that characterizes all of Dr. Senn's works—originality. He is not satisfied with other men's observations, but gives the results of his own experience. Sometimes they are startling and out of the beaten path of general teaching, but they are always sound and scientific. He is recognized as one of America's leading experimental surgeons and has given to the profession much that is valuable. Prominent is his method of lateral anastomosis in resection of the intestines. Dr. Senn is an eminent bacteriologist, and his chapters on pathogenic bacteria showing their connection with the etiology of surgical inflammation, are unusually interesting and valuable. The work is exceedingly practical, as the chapters on the treatment of the various conditions considered are based on sound deductions, are complete, and easily carried out by any painstaking surgeon. Asepsis and antisepsis are exhaustively treated. All in all, the book is a most excellent one, and deserves a place in every well-selected library.

A Compend of Gynæcology. By Henry Morris, M.D., Late Demonstrator of Obstetrics and Diseases of Women and Children in the Jefferson Medical College, Philadelphia, etc. With forty-five illustrations. Pp. 178. Philadelphia: P. Blakiston, Son & Co.

Quiz compends, though condemned by a great many, are nevertheless of great value and assistance to the student preparing for examination, and to the systematic reader. Of the many series of compends none are better nor more popular than Blakiston's, of which the volume in review is a worthy representative. It is clear, concise, and well written.

An Illustrated Encyclopædic Medical Dictionary. Being a Dictionary of the Technical Terms Used by Writers on Medicine and the Collateral Sciences, in the Latin, English, French, and German Languages. By Frank P. Foster, M.D., Editor of the New York Medical Journal. With the collaboration of William C. Ayres, M.D., New Orleans; Edward B. Bronson, M.D., New York; Charles Stedman Bull, M.D., New York; Henry C. Coe, M.D., M.R.C.S., L.R.C.P., New York; Andrew F. Currier, M.D., New York; Alexander Duane, M.D., New York; Simon H. Gage, Ithaca, N. Y.; Henry J. Garrigues, M.D., New York; Charles B. Kelsey, M.D., New York; Russell H. Nevins, M.D., New York; Burt G. Wilder, M.D., Ithaca, N. Y. Volume II. With Illustrations. New York: D. Appleton and Company, 1890.

Those whose pleasure and good fortune it has been to be the possessors of the first volume of this grand work have been looking forward with considerable impatience to the appearance of the second volume, and now that they have the second they are in no measure satisfied, but are even more impatient for those that are to come, so that they may possess the perfect work. We described briefly the character of the undertaking in our notice of the first volume, and need only repeat here what we said then as to the excellence of the work, for surely no educated or cultured physician can afford not to have on his shelves this standard dictionary. The work is certainly unique and without a parallel in medical literature in any language. The present volume includes the words from Cacothanasia to Fasay, and is profusely but judiciously illustrated. In addition to the wood engravings it also contains a beautiful colored plate, drawn by Mrs. Gage, showing several varieties of epithelium.

We hope the day is not far distant when we may be enabled to congratulate the learned editor upon the completion of his stupendous undertaking.

Society Reports.

THE PRACTITIONERS' SOCIETY OF NEW YORK.

Stated Meeting, March 6, 1891.

GEORGE L. PEABODY, M.D., PRESIDENT, IN THE CHAIR.

Chronic Purulent Otitis.—DR. SEXTON read a paper on "Chronic Purulent Disease of the Middle Ear." The writer alluded to the fact that the reforms in general surgery had now come to be recognized in the treatment of all ear diseases, when such were applicable, and that the old tentative and expectant modes of treatment were fast disappearing. This fact was to a great measure owing to the introduction of the electric light for the purpose of illuminating the ear, and by the aid of which diagnoses were rendered more certain. The indiscriminate use of powders and other medicaments were not warrantable in the great number of cases and inflicted much harm as a rule. Inflammation of the mucous surface of the middle ear tract differed from that of other air-tracts in the fact that when the secretions in the drum are excessive the difficulty of escape therefrom is a very important factor.

Chronic purulent middle-ear inflammation is a sequence of the acute process in the middle ear and usually occurs in run-down subjects, or in those residing among bad hygienic surroundings, etc. Scarlet fever, measles, severe head colds, etc., are causative, and in many cases phthisis, syphilis, or some dyscrasia have their influence in prolonging the disease. In examining the tympanum in these cases we shall often find perforations of different sizes in the drum membrane, and in many it will be entirely absent. In others a cicatricial reproduction of the drumhead will be seen, stretching itself over the inner wall of the tympanum and shutting off free drainage from the attic or upper chamber of the tympanum. Sinuses frequently exist in the membrana flaccida, leading into the attic and by means of which some of the secretion may escape. The ossicles are frequently displaced or are absent altogether. These bonelets are very often affected with caries. The deformities of the sound-transmitting apparatus and tympanum arising from chronic purulent disease are innumerable. Polypoid growths and granulations are frequently present, sprouting from the atrium or attic, and serve to block up and confine secretions.

Simple chronic purulent otitis media is not very frequent and has a tendency to spontaneous recovery, but when the attic is affected the tendency does not exist. The "attic" cases, so-called, are made important from the great danger of pent-up secretion, since the drainage is usually through one small sinus in the flaccid membrane. When this outlet becomes blocked up from swelling of the tissues in acute exacerbations, etc., the result may be attended with severe danger to the patient. The pent-up and confined secretions are a continual source of irritation and annoyance to the patient and add not a little to the poor condition of the general health. Deafness, tinnitus aurium, pain, autophonia, and vertiginous symptoms are usually present, one or all, to a greater or less extent.

In the treatment of cases of chronic purulent middle-ear disease, a large field for sound judgment is offered the general practitioner, as many cases of these troubles, especially among children, come under his observation. Mild cases should be let alone, and the use of medicaments, astringents, etc., excluded as meddlesome and aggravating to the case. Too frequent use of the syringe is also inadvisable, since humidity favors the growth of granulation tissue. Attention to the general health, etc., is of great importance. Granulation tissue and polypi should be cut away where they exist. When irreparable destruction of the sound-transmitting mechanism exists the organ is at best a defective one and extremely liable to constant recurrent invasions of purulency from colds, etc., and in such cases the diseased structures should be entirely removed, thus insuring good drainage. Improvement in hearing usually follows the procedure. The operation of removing the remnants of the drumhead and diseased malleus and incus (if present) is particularly indicated in "attic" cases. In such the usual local remedies and treatment are of little or no avail, and no time should be lost with temporizing methods of treatment. The operative removal of the carious ossicles, etc., is no longer a new procedure, since it has been successfully advocated by some of the most celebrated otologists of our time, both in this country and in Germany, where it was first introduced by Professor H. Schwartze, thirteen years ago. The writer uses an electric head-lamp on the forehead, for operating. The patient is deeply anæsthetized. The remnants of the drumhead are cut away around the periphery, the incudo-stapedial articulation is divided, as also the attachment of the malleus. The latter and the incus (if present) are then removed with a dressing-forceps or foreign-body forceps. Hemorrhage is slight as a rule and can easily be controlled by syringing with hot water. In a few weeks or months the walls of the tympanum become dry and covered with a non secreting, glistening, cicatricial membrane.

The operation is one entirely devoid of danger, no case of serious results having ever been reported from the many operations undertaken here and abroad. On the contrary, the results have been most gratifying and in accordance with those obtained in general surgery since the adoption of thorough drainage and antiseptic methods.

Thrombosis of the Lateral Sinus.—DR. R. F. WEIR said he had hoped the author would have found space in his paper to consider some of the complications of purulent otitis, as these, from a surgical stand-point, were of intense interest. It had not been long since abscesses of the brain, of ear origin, had come to be recognized and successfully treated. Very recently another complication of purulent otitis had been recognized and treated, and it was that which he had hoped the paper would touch upon. He referred to thrombosis of the lateral sinus. Many fatal cases classed under meningitis excited by aural disease had been found at post-mortem to be due to infective thrombosis of the lateral sinus. Recalling his experience when in the aural department of the New York Eye and Ear Infirmary, he there, on many occasions, trephined the mastoid, and in three instances unintentionally opened the lateral sinus. In two there was hemorrhage, but it was easily controlled. In the third one, to his surprise, bleeding did not take place, yet he was manifestly within the lateral sinus. The explanation had not occurred to him until recently he had read articles in the *Lancet* (by Balance and Lane), who had shown that chills and delirium alternating with stupor and high temperature, heretofore regarded as suppurative meningitis of aural origin, must be interpreted as thrombosis of the lateral sinus. Last spring Balance reported six cases, in four of which he brought about recovery by prompt surgical interference, boldly trephining down on the lateral sinus, exploring it a distance, and proving there was a thrombus. Furthermore, to prevent subsequent infection of the lungs, he deliberately ligated the jugular vein, and washed out the sinus from above downward, through an opening made into the vein above the ligature, or through this opening upward and out, at the point of trephining.

Dr. Weir said it so happened that when he was sick last spring he was asked by a physician to see a case of ear trouble, but, being unable to go, he asked Dr. Abbe to take charge of the case for him. It proved to be a case of thrombosis of the lateral sinus from ear disease. Dr. Abbe trephined the mastoid, and, as often happened to surgeons, came down upon the lateral sinus, which, when punctured, did not bleed. There came out a quantity of foul-smelling pus. He washed out the sinus. It was doubtless a case like those described by Balance, although Dr. Abbe did not ligate the jugular vein. There was an

abscess of the neck, which was also opened. The man developed inflammation of the lungs and pleura, yet he lived four or five weeks, and it was thought he would recover, when another abscess formed in the neck, calling for incision, and four or five days afterward he died of acute œdema of the lungs.

Within the last three weeks Dr. Weir had been asked, in the absence of Dr. Bull, to see a patient in his ward, a man who had been admitted twenty-four hours before with the history that for six years he had had a purulent discharge from the ear. Six days previous to admission the discharge had ceased, great pain had come on, with high fever and severe chills. When admitted, he passed from active delirium into stupor. Dr. Weir found a good deal of œdema behind the ear. He ventured the diagnosis of thrombosis of the lateral sinus, and trephined an inch and an eighth behind the external auditory canal, and came down immediately upon an abscess estimated to contain half an ounce of pus, some of which had escaped through the external meatus. The pus had a foul odor, and undoubtedly came from the lateral sinus. He then made an incision in the neck and secured the jugular vein. There was some bleeding, but a second ligature was tied higher up and the clot was reached. He did not wash the matter out at that time from above, because the patient's condition was desperate, and in fact he died before morning. An autopsy was not allowed.

He said he had ventured to speak of the subject somewhat at length because it opened up an entirely new field of surgical interference, in connection with long-existing purulent disease of the middle ear.

Dr. Gibney inquired of Dr. Sexton whether the operation for removal of the ossicles of the ear was in the nature of a radical operation and to what extent it improved the hearing.

Dr. Sexton replied that his first operations were undertaken simply with a view of curing purulency, but he observed that in nearly all the cases there was an improvement of the hearing. On reflection, he thought one would naturally expect that result, for on clearing out the ossicles and dense, thickened tissue within the drum sound could be condensed within the tympanic cavity, thus improving the hearing. The improvement in this direction was so marked that he would now undertake the operation in some cases for that reason alone, if for no other. He supposed it might be called a radical operation so far as removal of diseased structures was concerned, in the sense that one would speak of excision of the knee as a radical operation. Indeed, the condition resembled in considerable degree a chronic suppurative synovitis of the knee. There were sinuses, diseased structures, and imperfect drainage. He had been very much encouraged to undertake this work by the improved results obtained by general surgeons in disease of the knee, etc., since they had abandoned poultices and the like.

Improvement of the Hearing after Removing the Ossicles.—Dr. J. D. Byrant related a case which Dr. Sexton had operated upon for him, relieving the patient of noises from which she had suffered a long time, and which she thought would drive her insane. Moreover, he could say that her hearing had very much improved.

The question raised by Dr. Weir recalled to his mind the case of a physician upon whom he had operated the past summer. He had been suffering from very indefinite symptoms of inflammation of the mastoid cells. Neither the pulse nor the temperature gave any indication, but pain was present. Dr. Byrant would, in fact, not have suspected difficulty in the ear had the patient not feared it from previous experience leading to deafness on that side. He declined to operate at that time, but asked to be notified of any further signs. Three days later he received information that the patient thought there was evidence of disease, and on visiting him he followed a sinus down which led directly upon the lateral sinus. Pus was found in considerable amount around the lateral sinus. He examined with a view to discovering any thrombus, but could feel none, and then introduced the hypodermic needle, found blood, and thus satisfied himself that the sinus was open. With free drainage and cleanliness the patient recovered promptly.

Dr. Sexton, in closing the discussion, said the scope of the paper prevented mention of the subject discussed by Dr. Weir, and of cerebral troubles, which belonged rather to general surgery. Since, however, inflammation of the lateral sinus had been spoken of, he might say that it had occurred to him it might sometimes be mistaken for the condition in which inflammation sometimes extended directly downward from the mastoid cells, behind the insertion of the sterno-cleido-mastoid muscle, pus finding an outlet in the neck, sometimes in the posterior wall of the pharynx.

Tubercular Peritonitis; Exploratory Laparotomy.—Dr. Clement Cleveland related a case of tubercular peritonitis determined by exploratory laparotomy. The patient, twenty-four years of age, married three years, entered the Woman's Hospital about ten days ago. Two years ago she had given birth to a healthy child. She had herself always been in good health until last October, when she noticed that her abdomen was growing larger, and that there was pain in the lower abdominal region. Soon afterward she began to suffer from dysmenorrhœa. She sought the advice of a physician, who prescribed for her without making a diagnosis. On February 13th a doctor from a neighboring town was called in consultation, who thought he could make out a tumor, made exploratory puncture, and withdrew, the patient stated, about a teaspoonful of straw-colored fluid.

A thorough examination was made of the lungs and heart after she entered the hospital but no evidence of disease was found. Dr. Cleveland examined the abdomen, observed bulging, but there was only indistinct evidence of fluid, except by percussion. The resonance extended down some distance in the iliac region on both sides, there was flatness in an irregular line up to the umbilicus. Examination per vaginam showed the uterus to be retroflexed, firmly bound down by adhesions. By bimanual palpation he obtained indistinct evidence of fluid. The temperature had been taken night and morning for a week, and only on one occasion was there a slight rise. He made a diagnosis of tubercular peritonitis or of collapsed cyst, and asked the advice of several associates. They concurred in the diagnosis, and in the opinion that an exploratory incision had better be made. If there was no tumor, but tubercular peritonitis, the patient would obtain relief for several months by the operation, as the history of a number of cases had shown. He operated the Monday previous, making rather a short incision at first. Some fluid gushed out; the peritoneum was rather thick. He enlarged the opening; a quantity of fluid escaped. Beneath the incision was an obscure mass. The patient was then placed in Trendelenberg's posture and the rest of the fluid flowed out. Then he was enabled to see the contour of the abdominal cavity. It was largely shut off by the intestines, which were adherent to the parietal peritoneum in about the lines indicated by the percussion-note over the abdomen. Tubercular nodules existed everywhere. He washed the cavity out very thoroughly, sewed up the peritoneum and abdominal wound, and the patient had given an uneventful history since.

Semmola on Koch.—Professor Semmola, of Naples, does not give his sanction to experiments with Koch's lymph. He has recently delivered a lecture in which he said that the rational treatment of tuberculosis is to attempt to modify the predisposition to the disease, which the lymph does not do. Neither does it kill the bacilli nor render the soil unsuitable to their multiplication. "The first precept of medicine is, *Ne nocent*, yet in this case men have played with the lives of their patients by giving a certain poison in order to obtain a problematical alleviation."

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Stated Meeting, March 23, 1891.

ORLANDO B. DOUGLAS, M.D., PRESIDENT, IN THE CHAIR.

Medical Men and the Secular Press.—DR. FREDERICK R. STURGIS read a paper upon the question, "Under what Circumstances and to what Extent may Members of the Medical Profession properly Permit their Names and Opinions to be Published by the Secular Press?" The author read that portion of the Code of Ethics of the American Medical Association, and that of the Medical Society of the State of New York bearing upon this question, and entertained the view that the former was more practical and liberal in this regard than the latter. But there was nothing in either Code that prevented a member from publishing his name, place of residence, and office hours in the public press. This was often done in country places. It was the speaker's individual opinion that there could be no more harm in calling attention to the fact that one made a specialty of a certain class of diseases than that he treated all classes of diseases, nor did he think it would reflect upon or injure the dignity of the profession. There was one section in the Code of the State Society which he thought would, sooner or later, require modification, namely, the one relating to the opinion of medical men published in the public press through the medium of reporters, etc. It was sometimes extremely difficult for a physician to refuse to express an opinion on subjects which were attracting great public attention. If he did not, he would be likely to find an opinion put into his mouth which was foreign to what he would have freely expressed had there been no restraining Code of Ethics. He believed that if a newspaper wanted an opinion from a medical man it would get it, by "hook or crook," and it seemed to him better that the physician should state his views than that they should be misstated without his consent. He was well aware, however, that this opinion might meet with opposition on the part of some of the profession. Reference was made to the sensational statements contained in the newspapers regarding the attempt at transplantation of the bone of a dog to the human subject and to the use of tuberculin, as instances in which, if the profession had been permitted to speak, much unreasonable opposition to vivisection in the one case, and false hopes as to the cure of a certain disease in the other, would have been spared.

But it was quite different with regard to allowing one's name to be affixed to a certificate regarding the value of any proprietary preparation. He could never be assured that the high quality of the preparation would be maintained.

Papers which were read bearing on the public health, hygiene, and sanitation were often quoted and the names published in the daily press, and this he regarded as perfectly proper, for such names were usually of those of high standing in the profession.

In summing up, he answered the question at the head of his paper as follows: 1, In cases where our opinions are sought on matters pertaining to public health; 2, where advice or opinion is sought with regard to new or unusual methods of treatment; 3, to correct a mistaken impression with regard to an operative procedure or method of treatment; 4, although not strictly pertaining to this subject, he might say it was perhaps permissible for physicians to advertise their names in papers, and that there would be no harm in a physician stating the fact that he treated a certain class of diseases.

A Peculiar Ailment.—DR. A. JACOBI said the symptomatology of the ailment which formed the subject of to-night's discussion was rather well known. Its etiology varied to a high degree. Its therapeutics were very uncertain. Its cure appeared to be very doubtful. For relapses, to say the least, were very frequent, and invasions in new persons, like the eruptions of infancy, were quite numerous. As usual when he spoke, he had no prescription; he would only speak of the affection on general principle. Nor had he anything new to offer, for the opinions which he had expressed in a presidential address before the Academy of Medicine were those which he yet held. With rare exceptions, general questions could not be answered by any man to the satisfaction of his fellow-practitioners or of the interested public. If the secular press was anxious to inform the public with reference to medical or hygienic subjects, there was a much more direct and successful manner than by gathering haphazard remarks from individual physicians. To write popularly on a scientific subject was difficult, and required more time than the physician could give to it even if he had the tact. If interviews were permitted, the dignity of the profession would suffer from the absurd notoriety acquired by unscrupulous self-advertisers. He believed that the newspaper which would get a thoroughly informed medical man on its editorial staff, with nothing to do but report to the public on medical discoveries, physiological and hygienic matters, in a simple and intelligible manner, would render a great service to the people and advance its own prosperity. If advertising was going to be permitted, why not do it openly, for cash? The medical profession in this country, where it was not supported by Government, required the full confidence of the people, and in order to obtain this, gentlemanly bearing and unobtrusiveness were necessary. It had been agreed that public advertising of any kind was unworthy of the profession. There was not a person who had succeeded in making himself respected by the public and the profession who had advertised.

A Matter of Taste.—DR. DANIEL LEWIS remarked that the profession owed certain duties to the community. It was its duty to inform the community when asked regarding the public health and certain other matters. But he thought the press was likely to publish matter which was really unimportant, and might even do the community an injury by sensational reports concerning, for instance, the curative value of tuberculin, etc. Then, too, it was liable to misrepresent the physicians in imaginary interviews. Regarding personal advertising, he thought it was largely a matter of taste. A complaint was once made to the Committee on Ethics that a certain member of the County Society had hung his sign out on an apple-tree. The reply of the committee was that there was no law against this; it was a matter of taste; and no attention being paid to it the gentleman whose sign had hung out like that of a Chinese laundryman's soon concluded of his own accord that it was not becoming and had it taken down. And so with advertising one's name and office hours in the press. There was no law against it, but it would be in such poor taste that no one would continue it because of the injury he would himself suffer from such a course. It seemed to him common sense would regulate these matters without the profession as a body perplexing itself about them.

DR. ALEXANDER S. HUNTER called attention to the frequent errors in, and the unreliability of, the "interviews" published in the medical press. They were obtained by young men of limited education, many of whom wrote up the "interview" from memory, and the doctor was often made to appear ridiculous. He thought the public press could obtain such information as the public might need from matter published in the weekly medical press. If interviews were had, errors might be avoided if those interviewed were to take the precaution to write out what they had to say. He suggested that the Committee on Hygiene of this Society might be deputed to be the channel of communication between the profession and the public. On the outbreak of grave infectious or epidemic diseases its chairman, when convening his committee, might also invite those whose opinions he might covet. An official expression thus formulated would command the respect of the public and relieve us of the stigma of "disagreeing doctors."

He agreed with Dr. Jacobi, that all worthy specialists could advance themselves without public advertisement, as do the general practitioners. For those of the profession who had the weakness to take delight in reading their own things and methods from the public press, he asked the charitable consideration of the Society, and expressed a willingness to second a set of kindly drawn resolutions of pity for those who were thus constituted.

The Profession versus Self.—Dr. George F. Shrady said it was known that he had inveighed a great deal against what had been called advertising, and had come to be known somewhat as the champion of the modestly meritorious medical men. On the other hand, he confessed with all humility that he had been interviewed, quoted, and described by the daily press. He was in the position of the man who had a theory that when anyone was shot in the heart he would never have any reflexes, and when at last he was struck by a ball, jumped up, and said "Excuse me. My theory is sound, but I cannot help it!" He had come to the conclusion that there were two ways of medical interviewing in the daily press; a proper one and an improper one. The proper one was for the individual to speak for his profession, to sink the *ego* entirely out of sight and be proud to be spokesman for his brethren to the public. If that plan were carried out he believed we need never be ashamed of any interview which appeared in the daily press. The improper way was to magnify the *ego*, by placing the profession in the background and making it appear that by some special skill of our own we were superior to our associates, thereby creating invidious distinctions. If everyone who was interviewed on a medical subject would aim to place his profession in a properly scientific and dignified position before the public he should be proud to be its spokesman. It was often for want of manly and outspoken views on behalf of the profession that legitimate medicine suffered in the eyes of the people, and not infrequently courted the criticism of the secular press. The great trouble had been, however, in using covert means to advertise self by countenancing the reports of surgical operations, special methods of treatment, and the like. There were a great many ways in which this was done which were alike amusing and reprehensible. These modest doctors would say, "Now, Mr. Reporter, I don't want you to mention my name in connection with this business at all. It is derogatory to the dignity of the profession. It will never do. But if you really insist upon it, here is my card. It does no harm to have the name spelled correctly."

He mentioned another instance bearing upon this part of the question. A reporter on one occasion sought to be a contributor to the Medical Record, mentioning as a qualification that he was accustomed to report operations for the leading papers, and exhibited a specimen of his work already prepared for one of the dailies. "But," said the editor, "have you been allowed to do this by the principal?" The answer was, "He not only knows it, but corrects my manuscript." Subsequently, in proof of the statement, the revised report was shown and was afterward published. The victim to the notoriety was, of course, very much surprised, and maintained that the exaggerations were nothing more than could be expected from a sensational newspaper report. Thus the secular press was made the scapegoat of sneaking advertisers, and was blamed for many things of which it was innocent.

As one who had been brought constantly in contact with representatives of the press, he could testify to their fairness and desire for truth, and had often been surprised at the amount of knowledge which they had shown of medical subjects. Nor had he ever seen any particular misrepresentation by the press of remarks which had been made in a truthful and straightforward manner.

From the Stand-point of the Public Press.—Mr. Charles R. Miller, of the New York *Times*, present by invitation, said that all those who had spoken had been guilty of the same offence, of having been interviewed, and therefore it would appear that there was only one side instead of two sides to this question. He thought there were at least three occasions when the public had a right to demand the opinions of medical men. One was when, like during the recent excitement regarding Koch's lymph, a new remedy was introduced which was likely to arouse the hopes of a large class of sick people. Another, when an epidemic made its appearance. Again, when a Grant, a Sherman, or a Garfield was lying on his death-bed, and a reverent people looked to the profession for words of hope, or to be prepared for the end of all hope. He thought the line which separated the reputable physician from the advertising quack was not so frail that the public would not distinguish the blatant advertising of the latter from the conscientious interview with the former which an interested public now and then demanded. He feared that if Dr. Jacobi's suggestion were acted upon by the press, and a medical editor were attached to their staff, the profession would soon be expressing such loud complaints that it would be necessary to ship him West.

Some Advertisers Get Honor and Money.— Rev. Dr. Buckley, also present by invitation, gave some instances showing that the Code of Ethics which prohibited advertising often made it very difficult for able men who might settle in a strange community to get along and acquaint the public with their talents, while unscrupulous quacks entered at once upon a lucrative practice. He also mentioned some instances where regular physicians had rapidly risen in honor and wealth by securing the publication of an interview or other method of advertising, thus constituting an exception to the rule as laid down by Dr. Jacobi. He thought there should be some means devised whereby the public could be informed regarding the ability of a physician who might be a stranger to them, and for the physician to make known to the public the college from which he had graduated, and the medical societies of which he might be a member.

A Broad Code.—Dr. D. B. St. John Roosa thought that when the Old Code and the New Code discussion took place in this State, and which finally resulted in the overthrow of the Old Code in as far as it prevented free consultation, it was unfortunate we did not go further. Physicians were constantly violating that part of the Code relating to interviews and the appearance of their names in the public press and he thought it might much better be wiped out entirely. Suppose the clergymen of this country, or the lawyers, should assemble and make rules as to how far their opinions upon theological or legal subjects should be presented to the public. He thought the whole Code should be done away with, and the members of the medical profession be allowed to take care of their own matters in their own way, like gentlemen.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

THE PROGNOSIS IN CASES OF FATTY DEGENERATION OF THE HEART, DISEASE OF THE RIGHT VENTRICLE, AND ANGINA PECTORIS — MODERN METHODS OF PERFORMING CÆSAREAN SECTION—YELLOW FEVER—SPONDYLOLISTHESIS—A UNIVERSITY FOR WALES—THE CENSUS.

London, April 4, 1891.

In the third "Lumleian Lecture" at the College of Physicians, Dr. Broadbent discussed the prognosis in cases of fatty degeneration of the heart, disease of the right ventricle, and angina pectoris, respectively. The prognosis of the first affection could contemplate, he said, only one result; a fatal termination was merely a question of time and circumstance. Excluding cases in which death had been sudden without warning, the shortest period in his experience over which characteristic symptoms had extended, together with recognized physical signs, had been about six weeks. Several patients had

survived the diagnosis two years before justifying it by dying suddenly. Circumstances as well as time entered into the prognosis; on the one hand a fatal termination might be hurried on, and, on the other hand, judicious care might postpone it till the heart was completely worn out and came to a standstill. Was fatty degeneration of the heart ever cured or arrested? If the granular disintegration which was produced by typhoid fever was to be included under the term, the answer must undoubtedly be "yes." When degeneration had been the result of other forms of blood-poisoning it ought to be possible, and now and then to occur, that recovery of the heart should follow a return to a more healthy state of blood. The lecturer then related the case of a patient in whom he diagnosed fatty degeneration of the heart ten years ago, the patient being then about fifty-five. The patient would never relinquish exercise, but continued to walk, however slowly and at whatever cost of pain and distress, every day, exercising great self-command and measuring his strength very exactly. Little by little he gained ground and was now alive and in fair health, though not capable of much in the way of work.

In the diagnosis of fatty degeneration of the heart the most constant and significant feature of the pulse was that it was short and unsustained. (Physical signs might be described as negative, but the absence of murmur, or of conspicuous modification of the sounds or intervals, and of disturbance of the relation between the two sides of the heart, or of increase of dimensions when symptoms of serious slackening of the circulation were present, and especially when there had been anginal or syncopal, or apoplectic attacks, added gravity to the case.) But a weak, short, unsustained pulse was common as a constitutional peculiarity, or might at any period of life be simply a result of general debility, and impulse and apex-beat might be entirely absent and the sounds might be short and weak. In young people there was no danger of such weakness being taken to be indicative of degeneration of the heart, but it might arouse anxiety after middle age—especially if there were also irregularity. It was important to distinguish between functional weakness of this kind and weakness arising from organic disease, and this could usually be accomplished by making the patient walk briskly. A few steps would often suffice. If the heart were sound it would rise to the occasion, whereas the fatty heart would "go to pieces" and the pulse might even disappear. The diagnosis of fatty degeneration of the heart was not easy until the disease was far advanced, and could scarcely ever be made without more than one opportunity of examination.

Speaking of disease of the right ventricle, Dr. Broadbent said it had seemed to him that our ideas had been too much based upon a study of the symptoms which attended affections of this ventricle secondary to disease of the left ventricle or its valves, which therefore were really attributable to the original disease. Undoubtedly, the supervention of dilatation of the right ventricle and of reflux through the tricuspid orifice allowed back pressure to be brought to bear upon the veins, but this only intensified pre-existing symptoms, and made no change in their character. We were perhaps justified in assuming that venous back pressure from insufficiency of the mitral valve would in some degree produce the same results whatever the state of the left side of the heart. But the conditions were fundamentally different when the tricuspid reflux was primary, for it was not impossible that a sound and strong left ventricle might come to the aid of the right ventricle, just as the right ventricle so constantly came to the aid of the left. The pressure which would cause the blood to spurt for two or three feet in venesection might carry a current through the capillaries of the lungs aided by the respiratory movements and the valves of the pulmonary artery. Dr. Broadbent said it had also seemed to him that weakness of the right ventricle, the left one being normal, had in some cases given rise to symptoms due rather to inadequate supply of blood to the left side of the heart than of damming back of blood in the veins. A few cases had come under his notice in which the right ventricle had appeared to be predominantly or almost exclusively affected by asthenia or degeneration—the effects being similar to those observed in tricuspid regurgitation. He narrated a case in which there was an entire absence of right ventricle sounds, and said he could not doubt that there was really no action of the right ventricle.

One of the most serious effects of weakness of the right ventricle was met with in disease of the mitral valve. When this valve became inefficient the right ventricle was for a time the rampart by which the reflux of blood was arrested and the crippled left ventricle reinforced. The systolic apex-murmur in mitral regurgitation gave no trustworthy information as to the amount of blood carried back into the auricle. We gathered this mainly from the effects on the right ventricle. The first of these was accentuation of the pulmonary second sound, indicating increased pressure in the pulmonary circulation; following on this came hypertrophy of the right ventricle, by means of which the obstruction to the passage of blood through the lungs was overcome. It was by the augmented strength of the right ventricle that the mitral leakage was neutralized and a working equilibrium established. The change in the right ventricle thus became a measure of the regurgitation, and therefore, when we detected a mitral systolic murmur, we at once examined the right ventricle in order to gather from its condition information as to the amount of reflux not yielded by the murmur itself. When in these cases the right ventricle was in a state of degeneration or great weakness, and symptoms of failing compensation had set in, the prognosis was extremely grave. The fulcrum for some of our most efficacious therapeutic measures was missing, for we dare not open a vein, however great the respiratory embarrassment and cyanosis; leeching over the liver was less good, and a dose of calomel was not well borne. Under such conditions recovery was rare, and the lecturer said that twice in his experience patients in whom an unfavorable prognosis had apparently been belied by apparent convalescence, had died suddenly when beginning to walk about. Similar conditions resulted from time to time from adhesion of the pericardium, for the right ventricle suffered much more than the left from pericarditis. The right ventricle was also undoubtedly sometimes the cause of sudden death, and when the heart was embarrassed or stopped by pressure upward of the diaphragm by a distended stomach or colon, it must be on the right ventricle that the pressure took effect, for this part of the heart rested upon the diaphragm and would be directly compressed when it was pushed up.

The prognosis of angina pectoris was beset with uncertainty. We could never tell when the next attack would come on, or whether it might not be the last. The elements to guide us would be an estimate of the relative predominance of the two chief factors in the production of the attack, whether inherent weakness of the heart-wall, or obstruction in the circulation, or other cause of embarrassment of the heart's action. When the attacks only came on when provoked by exertion or excitement, or by flatulent indigestion (not, of course, taking the patient's word for the last-named cause), the hope might be entertained that by care the attacks might be postponed indefinitely. The patient, for example, must not take exercise immediately after food, must never hurry or walk against a wind, even on level ground must adapt his pace to his condition, and if compelled to go up hill, must do so very gently and circumspectly. If there were habitual high tension in the pulse, there was at the same time evidence of obstruction in the arterioles and capillaries (which might be capable of mitigation) and of some degree of vigor in the heart. So also would be accentuation of the aortic second sound, and still more any recognizable impulse or apex-beat. Angina in connection with aortic valvular disease might run a protracted course. It

was when the pulse was soft, and the heart was normal in dimensions, with imperceptible impulse and weak sounds —when, in fact, the results of careful examination were negative—that the greatest uncertainty and danger existed. The occurrence of unprovoked attacks and of nocturnal angina would emphasize this conclusion.

At the last meeting of the Hunterian Society a paper on "Modern Methods of Performing Cæsarean Section" was read by Dr. Galabin, obstetric physician to Guy's Hospital. The author ascribed the high mortality—sixteen per cent. or more—of the operation at some hospitals to the adverse effect of previous attempts to deliver by forceps, etc. Säuger's method was designed to close the uterine wound by a system of deep (muscular) and superficial (peritoneal) sutures, and so keep the uterine and peritoneal cavities shut off. Success depended much on the operation being a primary choice. In a multipara one need not wait for labor to begin, but it was usually best to puncture the membranes. The use of an elastic ligature round the neck of the uterus was, on the whole, good. Dr. Galabin preferred silver wire for the deep sutures, the superficial ones being so arranged as to bring flat surfaces of peritoneum in contact. Cameron, of Glasgow, shortened the operation by using no superficial sutures, and had had only one death in ten cases. It was often advisable to sterilize the patient by removing the ovaries, or tying the Fallopian tubes near the outer end.

A steamer is now in quarantine at Southampton, in consequence of four deaths from yellow fever having occurred during the voyage from Brazil.

At the last meeting of the Obstetrical Society a specimen of spondylolisthesis was shown by Mr. Targett.

It is proposed that Wales should have a university of its own, with power to confer degrees.

In the decennial census just about to be taken, information will be asked as to the number of persons: 1, deaf and dumb; 2, blind; 3, lunatic, imbecile, or idiot.

THE DISPENSARY ABUSE.

To the Editor of the Medical Record.

Sir: In your issue of March 28, 1891, there is an article on the "Dispensary Question," signed "F. R." The writer's ideas impressed me rather favorably when reading this over for the first time, but after further consideration I concluded that there was an underlying fallacy in the argument. First, the author states that when those individuals patronize the dispensary who by making an effort could contrive to pay a physician they are no more pauperized than the visitors to our libraries, parks, and museums; and that there is a certain class of people in the community who by receiving free medical treatment are prevented from descending to the level of the tenement-house population. Now, I understand that a pauper, according to the general definition, is one so indigent as to depend on charity for his maintenance; hence the recipient of medical charity is thereby pauperized to this extent. He cannot be compared to the man who visits the libraries and museums, as these institutions are luxuries, not absolutely essential for man's maintenance, and those who enjoy their advantages cannot be considered paupers according to the definition of that word; while, on the other hand, medical treatment for the sick is a necessity. Again, why should free medical treatment be extended to the class of people mentioned, who would thereby be maintained in their present social position, any more than should the other necessaries of life be supplied to them gratuitously? The writer then goes on to say that the dispensaries are making it hard for some doctors to live, but that every new machine throws hand-workers out of employment, just as the discovery of petroleum took away the whaler's occupation; nevertheless petroleum and machinery are good things, and the doctor whose occupation is gone must find another. Now this, as far as the hand-worker and whaler is concerned, may be true, but it does not apply to the physician. What can take his place? The dispensary cannot exist without him, and his occupation, so far from being gone, is, on the contrary, in increasing demand, and always will be so long as human beings are subject to disease. The writer then adds, "Were it possible for every man, woman, and child in New York to secure medical attendance free, to be relieved from the burden of sickness, the community would be by just so much the better off." I think the author might with equal fairness argue that free groceries, free clothing, and free homes would also benefit the community. If this idea were carried out, there would be no necessity for work; the people would become demoralized, and we would soon have a nation of paupers. I believe that every right-minded physician, and also our best laymen, agree that the object of the dispensaries should be to afford medical treatment to the needy poor only.

Alpheus Freeman, M.D.

New York.

New Instruments.

AN INSTRUMENT FOR TREATING ENLARGED TONSILS BY ELECTROLYSIS.

By HENRY L. COIT, M.D.,

Newark, N. J.

The diversity of opinion concerning the wisdom of excising enlarged tonsils, together with the difficulties in obtaining the consent of patients to this operation, led the writer to devise a suitable instrument for treating these cases by electroylsis. The accompanying cut will represent the instrument, which was made for me by Messrs. Tiemann & Co., of New York, and is designed to enable the practitioner to treat hypertrophied tonsils by the electrolytic action of negative galvanism. The electrode consists of a shaft of steel, insulated throughout its entire length with a movable hard-rubber sheath. The bifurcated needle is curved so as to include the tonsillar tissue in its grasp. It is made of platinum and is insulated to within a centimetre of the points. The points are separated by pushing the steel shaft through the insulating sheath, and by means of the thumb-screw they are made to approximate each other and thereby caused to pierce the submucous tissue of the tonsil. The needle carries but one current (the negative), which is denutritive and promotes absorption of the fibrous exudation without destroying the mucous membrane. The positive pole is applied by a sponge electrode to the skin external to the affected tonsil. From five to twenty milliampères will be found sufficient, applied at intervals of one week. The operation is very much facilitated by the local application of cocaine.

The Therapeutic Value of Sodium Iodide.—It has been asserted by many that iodide of sodium was an inert substance, or at least that it exerted no medicinal action similar to that of iodide of potassium. Dr. Gingeot, of the Hôpital Saint-Antoine, has made a number of experiments to settle this question, and finds that the drug does possess undoubted therapeutic properties, equal to, if not superior to, those of the potassium salt, in cases of arteriosclerosis, though it may be less potent in cases of syphilitic disease.

Army News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from April 5, 1891, to April 11, 1891.

HOFF, JOHN VAN R., Captain and Assistant Surgeon, now in New York City, on leave of absence. By direction of the Acting Secretary of War, is assigned to duty as an additional member of the board of medical officers constituted by paragragh 18, S. O. 52, March 7, 1891, from this office, to meet in New York City, for the examination of candidates for admission to the Medical Corps of the Army, etc. S. O. 78, par. 6, A. G. O., Washington, D. C., April 7, 1891.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending April 11, 1891.

	Cases.	Deaths.
Typhus fever	2	1
Typhoid fever	9	2
Scarlet fever	228	35
Cerebro-spinal meningitis	3	5
Measles	342	18
Diphtheria	82	30
Small-pox	0	0
Varicella	6	0
Pertussis	6	20
Erysipelas	0	0
Mumps	0	0
Rötheln	0	0

Poison-Proof Animals.—Neither differences of organization in animals, nor in the constitution of the poisonous substance generally, afford any clew for interpreting an exceptional want of effect. Unaccountable is the immunity of rabbits against belladonna. You may feed them with belladonna for weeks without observing toxic cerated facial neoplasms.

The literature on the effects and on the value of external as well as internal application of the aniline dyes, especially pyoktanin (blue), in general surgery is comparatively small yet. Notes in this respect will be best found in the second treatise of J. Stilling,[1] Professor of Ophthalmology at the University of Strasbourg, Germany, who together with Dr. Wortmann, made careful bacteriological and chemical researches with the different aniline dyes. He baptized one of the methyl-violets, which showed the greatest antiseptic power, pyoktanin, and introduced two different kinds of the drug, the blue and the yellow (pyoktanin cæruleum and pyoktanin aureum). The latter is also called auramin. Its antiseptic power is far less than that of the former one; it is mostly used in superficial wounds and on the face, as it dyes the tissue yellow.

In regard to this special subject, viz., the use of the aniline dyes, especially pyoktanin,[2] in the treatment of inoperable malignant growths, only a few gentlemen have so far reported. Stilling mentions in his second paper[3] that he succeeded in curing with pyoktanin an extensive excerated epithelioma of the face (ulcus rodens) which, beginning in the middle of the dorsum of the nose, involved the entire wall of the lachrymal sac and half of the upper eyelid. He first sterilized the surface with a large pyo-

[1] Anilin-Farbstoffe als Antiseptica und ihre Anwendung in Praxis. Zweite Mittheilung. Strassburg. 1890.
[2] In mentioning "pyoktanin" in the following notes always "blue" one is alluded to.
[3] Loc. cit., p. 96.

than in men (29.74 per cent.). Age again seemed to be a factor, for ova were detected vastly more frequently in the fæces of subjects under fourteen years of age (45.49 per cent.), while at a later period of life—over sixty—this only obtained in the proportion of 14.81 per cent. He found representatives of most of the genuses of intestinal worms, ascarids and bothriocephalus being the most common, and the tænia solium the most infrequent. During the autumn months intestinal parasites were met with more frequently than during winter and summer, but the season appeared to exercise a notable effect on the prevalence of individual varieties; thus, ascarids occurred most frequently at about the end of the summer season and during the autumn, bothriocephalus during the autumn and winter, while trichocephalus triumphed indifferently in all four seasons of the year. Respecting racial preferences, he remarks that the Hebrew race suffered rather more than other nationalities, but among all races the poor are naturally more liable to harbor these parasites than the well-to-do. As might be anticipated, particular occupations predispose to special varieties of the enemy, but the results in this respect are less conclusive. One important observation is that bearing on symptomatology. Of 306 hosts, 88 did not present any symptoms referable to the presence of the parasites, but in the remaining 218 gastro-intestinal disturbances and other nondescript symptoms were complained of. Curiously enough the vast majority of the hosts entertained no suspicion whatever of the contents of their intestinal canal, and the author points out that in all obscure cases of anæmia, emaciation, and gastro-intestinal or nervous disturbances it is eminently desirable to institute a careful microscopical examination of the fæces for the purpose of detecting the presence of ova.—*The Medical Press.*

The Pennsylvania Pharmacy Law which was passed in 1887, provided that any graduate of any accredited college who had had not less than three years' continuous practice could be registered under the act to carry on the retail drug and apothecary business without examination. The courts have decided that the Pharmacy Board has no discretionary power and cannot refuse registration to any applicant. The consequence is that the Pennsylvania Pharmaceutical Association has risen up in arms to have that part of the law repealed so that all applicants for the practice of pharmacy shall be examined. On the other hand, the doctors are working for the passage of a bill that shall leave no doubt as to whether physicians who apply for licence must be examined. This amendment reads that such doctors *shall be* registered without examination. The Pharmaceutical Association is doing active work and every druggist in the State received a strong circular urging him to write to his representative in the legislature and use all his influence to have the offending clause repealed.

The Renaissance of Therapeutics.—Dr. Spender states that, within a period of fifty years, corresponding pretty nearly to the reign of Victoria, there have been great changes in therapeutic art and practice. Some of our methods are so transformed that the art itself seems almost new, others are guided to new ends, and the scope of not a few is much enlarged. Let us go back half a century, and bring to memory (if possible) our medical poverty in and about 1840. Crying sufferers entreated us, and we could only confess our impotence to help them. Diseases were called incurable simply because we had no means of curing them. There were whole domains of work in which we seemed no better off than Scott's North Country doctor, who boasted of his "twa simples of calamy and laudamy." And we were chilled by that "therapeutic nihilism" which began in the school of Vienna, and has infected a large number of practitioners in all parts of the world. Pathology was in great fashion between 1845 and 1870, and medical energy ran strongly in the direction of necropsies and microscopes. Diag-

nosis was deified and worshipped; a post-mortem examination which showed a doctor to be right was more esteemed than a recovery which showed him to be wrong; morbid anatomy was a passport to fame. To demonstrate a disease had a more striking note of glory than ability to cure it. So recently as 1861 a New York journalist uttered the reproach that therapeusis had lingered far behind all other branches of medical research. If Nature did not surrender her secrets of healing, it was too much trouble to wrestle and make her declare them. If we were ignorant, we pleaded the parsimony of natural laws and forces. A more humane philosophy altered the whole current of professional thought. Dr. Latham declared that the treatment of diseases is part of their pathology. Sir Thomas Watson inaugurated the first meeting of the Clinical Society by an address in which he chided the profession for vagueness and want of earnestness in the use of drugs; trying one thing after another, and going about without landmarks or beacons. Sir Thomas Watson's challenge has had a most bracing effect. The laughing scepticism of the other day is out of court. We employ our therapeutic possessions as if we trusted them; we lean upon the rock of physiological experiment and steady observation. The doubter and scorner are still among us, but they lie in ambush as if ashamed.—*Practitioner.*

Getting Even with a Tape-worm.—A butcher boy treated by mercurial inunctions, having passed two solices per anum, was treated with male fern, which caused the evacuation of two tænias, whose gray coloration caused the presence of mercury to be suspected. Chemical analysis having demonstrated that such was really the case, microscopical examination gave the following result: Treated with glycerine, each proglottis showed the metallic deposit in the vas deferens, in some of the vasa efferentia, and in the vesiculæ seminales. It was so pronounced in the oviduct that even to the naked eye it presented the appearance of a dark streak. The vagina looked like a dark tube, although on section the narrowed calibre was still found to exist. The walls of the uterus also contained a certain quantity, while the ovary itself was quite free. After staining by means of eosine and other coloring matters, longitudinal and transverse sections revealed the fact that the entire parenchyma of the tænia contained particles of mercury, equally distributed. On the integument these were collected principally in the grooves or depressions, which was particularly the case in the neighborhood of the suckers; to the naked eye the head of the worm seemed blackish. Previous observations had already drawn attention to the dark color of the head in certain tapeworms, but this was due to a granular pigment deposited in the cellular tissue, and bearing no resemblance to the mercurial deposit mentioned above as being present in the external tegument of the head of the tænia. In the same way it cannot be mistaken for the collections of pigment which Leuckart has noticed in the vagina, since he has himself stated that these collections were found only in old proglottides, while those found in the Gottingen case were situated in young and living proglottides. The remarkable part of this observation is the enormous amount of mercury absorbed by these parasites without having any appreciable influence on their vitality; with the exception of the gray coloration, microscopical examination did not reveal any difference from the parasites found in healthy animals.—*New England Medical Monthly.*

Unhealthy St. Petersburg.—An epidemic of small-pox is supposed to have broken out in St. Petersburg, and the entire population of the capital, of all classes, has been seized with panic. Many thousands of rich and poor daily besiege the authorized vaccinators, who are quite unable to cope with the rush, and the quantity of lymph obtainable at one time is altogether insufficient. General Grösser, the Prefect, issues all manner of sanitary regulations in connection with measures against the disease, and compulsory revaccination has been ordered in all schools and various other large establishments. The doctors declare privately that the matter is not so bad as is generally believed, but that the authorities are only too glad to see the population frightened into measures of precaution and sanitation generally. Considering the permanently insalubrious conditions of St. Petersburg, which have been recently aggravated by frequent inundations, a panic of the present kind is supposed to do more good than all the neglected and mostly impracticable instructions of the police.

A Substitute for Parataloid.—The Paris correspondent of the *Medical Press and Circular* writes that two French physiologists have been trying experiments on rabbits to test the value of goat's blood as a remedy for tuberculosis, and were so pleased with the result that they have just made their first attempt on man. The rabbits were rendered tuberculous by inoculation, and then a small quantity of blood was injected, not transfused, beneath the tissues at intervals. The "bunnies" did not seem much the worse for the operation; on the contrary, those who were thus treated recovered, while the others succumbed to the malady. MM. Picq and Bertin naturally thought that the human species ought to profit by the discovery, and have begun experiments in that direction. A young man who was pining away from the dire disease was chosen for the operation, and submitted to it with a good will deserving of success. Half an ounce of goat's blood was injected into the tissue of the leg, the blood coming in an uninterrupted stream directly from the animal. The patient felt very little uneasiness after it, no swelling occurred, and it was said that both the fever and cough diminished in a few hours. He will receive another injection in a few days. All that can be said of the affair is that MM. Picq and Bertin are very sanguine as to the discovery.

To Remove the Stains of Pyoktanin from the Hands.—The staining of the hands is a disagreeable feature in the use of pyoktanin, but this can be removed, according to *Merck's Bulletin*, by washing with a ten per cent. solution of castile soap in alcohol, the solution of chlorinated soda, or tincture of soap.

rubber sheath. The bifurcated needle is curved so as to include the tonsillar tissue in its grasp. It is made of platinum and is insulated to within a centimetre of the points. The points are separated by pushing the steel shaft through the insulating sheath, and by means of the thumb-screw they are made to approximate each other and thereby caused to pierce the submucous tissue of the tonsil. The needle carries but one current (the negative), which is denutritive and promotes absorption of the fibrous exudation without destroying the mucous membrane. The positive pole is applied by a sponge electrode to the skin external to the affected tonsil. From five to twenty milliampères will be found sufficient, applied at intervals of one week. The operation is very much facilitated by the local application of cocaine.

The Therapeutic Value of Sodium Iodide.—It has been asserted by many that iodide of sodium was an inert substance, or at least that it exerted no medicinal action similar to that of iodide of potassium. Dr. Gingeot, of the Hôpital Saint-Antoine, has made a number of experiments to settle this question, and finds that the drug does possess undoubted therapeutic properties, equal to, if not superior to, those of the potassium salt, in cases of arteriosclerosis, though it may be less potent in cases of syphilitic disease.

Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 39, No. 17.
Whole No. 1068.

NEW YORK, APRIL 25, 1891.

$5.00 Per Annum.
Single Copies, 10c.

Original Articles.

NOTES ON THE EFFECT OF THE ANILINE DYES, ESPECIALLY THE BLUE PYOKTANIN, IN THE TREATMENT OF INOPERABLE MALIGNANT GROWTHS.

BY WILLY MEYER, M.D.,

ATTENDING SURGEON TO THE GERMAN AND NEW YORK SKIN AND CANCER HOSPITALS.

AT a time when tuberculin and cantharidate of potash are injected for the cure or the improvement of tuberculous troubles, and our medical journals and periodicals are constantly full of reports which are the result of a comparatively short time of observation of the individual medical man, it seems rather queer to join this interesting and at the same time necessary rapidity of publication with new remedies applied for the cure or improvement of another chronic and malignant disease. If I nevertheless give a preliminary report of an eight weeks' use of the aniline dyes, especially of pyoktanin (blue), in the treatment of inoperable malignant growths, I do so because this my rather short experience with the aniline dyes made me believe that they will most probably play an important rôle in the treatment of such patients as suffer from cancerous (and sarcomatous) new growths, where neither knife nor cautery can bring any more help; and because I think that if many colleagues try the aniline dyes for this unhappily so common disease, important facts in regard to use and effects will be gained so much quicker, mistakes in dose and application found out meanwhile by experience can be avoided, and many poor creatures may perhaps be benefited so much sooner, if only in regard to alleviating the pains which so frequently accompany exulcerated facial neoplasms.

The literature on the effects and on the value of external as well as internal application of the aniline dyes, especially pyoktanin (blue), in general surgery is comparatively small yet. Notes in this respect will be best found in the second treatise of J. Stilling,[1] Professor of Ophthalmology at the University of Strasbourg, Germany, who, together with Dr. Wortmann, made careful bacteriological and chemical researches with the different aniline dyes. He baptized one of the methyl-violets, which showed the greatest antiseptic power, pyoktanin, and introduced two different kinds of the drug, the blue and the yellow (pyoktanin cæruleum and pyoktanin aureum). The latter is also called auramin. Its antiseptic power is far less than that of the former one; it is mostly used in superficial wounds and on the face, as it dyes the tissues yellow.

In regard to this special subject, viz., the use of the aniline dyes, especially pyoktanin,[2] in the treatment of inoperable malignant growths, only a few gentlemen have so far reported. Stilling mentions in his second paper[3] that he succeeded in curing with pyoktanin an extensive exulcerated epithelioma of the face (ulcus rodens) which, beginning in the middle of the dorsum of the nose, involved the entire wall of the lachrymal sac and half of the upper eyelid. He first sterilized the surface with a large pyoktanin stick and then powdered the pure substance on the formed eschar. This procedure was repeated a number of times. A hard cover was thus formed, which could not be pulled off. It came off by itself after a number of weeks, and underneath a smooth cicatrix presented itself. The eyelid, of course, was contracted. He states this case to show how effective the aniline dyes can be even in such cases under special favorable circumstances, and not to claim to have found a remedy for cancer. In another case, which seemed to be much more favorable, this kind of application had no success whatever.

On January 30, 1891, Professor v. Mosetig-Moorhof read a very interesting paper before the Vienna Society of Physicians, "A Contribution to the Treatment of Inoperable Malignant Growths,"[1] in which he reported on his experience with pyoktanin in such cases. He stated that on November 20, 1885, he had presented to the same society two patients with very extensive inoperable epithelioma of face, in which he had succeeded in removing all the diseased tissue with the help of a drug (lactic acid). But as early as 1883 he had treated an inoperable round-cell sarcoma of the right groin of a man, aged fifty, with parenchymatous injections of a one per cent. solution of an aniline dye (anilinum trichloratum). Eight weeks later the œdema of the lower extremity had disappeared, the large tumor was reduced to a nodule of the size of a walnut, and the ulceration had healed. The patient left the hospital cured and attended to his business. He died one year later of pneumonia; the neoplasm had not recurred. As in the course of the treatment he had nearly lost his patient by using one drachm of the one per cent. solution in one sitting, most probably on account of poisonous impurities in the drug,[2] and as he later saw in three other cases, treated in the same way, very annoying and dangerous general effects, he stopped these researches and only started them again after having read Professor Stilling's discovery of pyoktanin, a powerful antiseptic drug, which is perfectly harmless and chemically not poisonous to the organism. In the treatise referred to, a number of cases are reported which demonstrate that in pyoktanin a remedy seems to have been found which can possibly bring help in cases of inoperable malignant growths, where formerly the patient and doctor likewise seemed to be absolutely helpless.

At the same meeting Dr. Neudoerfer reported[3] that in the spring of 1890 a woman, more than seventy years of age, came under his treatment, who suffered from an inoperable cancer of the right breast. The whole breast and surrounding tissues were densely infiltrated by a cancerous growth and partially exulcerated. The ulcerations were first dressed with pyoktanin solution, later on spread with a powder, which consisted of one to two parts pyoktanin to one hundred parts talcum venetum. The patient seemed to be very satisfied with this treatment. She still complained of pain during the night, but the neoplasm, although not diminished in size, stopped growing.

In November, 1890, he treated a second similar case in a woman more than sixty years of age in the same way. In this case also the ulceration did not spread: the infiltrated glands in the axillary cavity became continuously smaller and movable.

[1] Anilin-Farbstoffe als Antiseptica und ihre Anwendung in der Praxis. Zweite Mittheilung. Strassburg. 1890.

[2] In mentioning "pyoktanin" in the following notes always the "blue" one is alluded to.

[3] Loc. cit., p. 96.

[1] Wiener klinische Wochenschrift, 1891, No. 6, p. 101.

[2] These impurities are arsenic, sulphate of copper, and chlorate of zinc.

[3] Wiener klinische Wochenschrift, 1891, No. 6, p. 113.

Stilling[1] proposes to make use of such aniline dyes for parenchymatous injections of inoperable neoplasms, which slowly, and for a small percentage only, dissolve in a 0.6 per cent. solution of chloride of soda—viz., blood. The injected fluid will then not as quickly leave the tissues, into which it has been injected, by diffusion, and therewith enter the blood. In the latter respect he advises great care, as the dye enters the red blood-corpuscles, and, if entering in too large an amount, may endanger their function, possibly destroy life. He believes that ethyl-violet will best answer this purpose. Only 0.7 to 0.8 part are soluble in 1,000 water; it has besides the strongest antiseptic power of all the drugs belonging to this class. Stilling called it ethyl-pyoktanin; it is also manufactured by Merck. In regard to its practical application in inoperable cancer cases, he thinks it best "to make use of the well known method of Von Nussbaum, who tied the arteries which fed the neoplasm. in order to stop its growth. The tissue, thus having been made bloodless first, should then be thoroughly dyed in all its parts, and that as rapidly as possible."

Von Mosetig presented four of his cases, previously referred to, at a recent meeting of the Vienna Society of Physicians[2] (March 13th). The patients had all been materially improved, but were not yet cured. He also stated that a woman with papilloma of the bladder, who had been treated with injections of pyoktanin, 1 to 1,000,[3] had had no more vesical hemorrhage and was able to attend to her work; she had also got rid of the troublesome stranguria. He assumed that the papilloma had materially shrunk. A gentleman with an immense inoperable adeno-sarcoma of the pelvis, which had made him an entire invalid, was so far improved by the color-cure that he again entered society and left for the South. The rest of the tumor presented about the fifth of its original size. Sixteen more cases of this kind were submitted to the same treatment. Fourteen of them were materially improved; two died. In none of the cases did the neoplasm spread during the treatment. One of the deaths was due to a sudden compression of the trachea by a large sarcoma of the thyroid gland; the other was caused by an uncontrollable venous hemorrhage occurring in the course of the treatment, in a man with a sarcoma of two fists' size, which was seated in the parotid region and the right side of the neck. The post-mortem revealed that the superficially ulcerating neoplasm had undergone fatty degeneration in the deeper region, which was attributed by the author to the use of the pyoktanin. The tumor had infiltrated the wall of the internal jugular vein and then, by its breaking down, given free exit to the venous blood. Von Mosetig concludes that we had better be careful with this treatment in cases of malignant growths which have developed in the neighborhood and around large blood-vessels. He is inclined to avoid injection into the tumors which involve large veins and also into those which cannot easily be reached by the needle of the syringe. He now prefers a solution of 1 to 500 as a standard solution, which is filtered through heated asbestos to remove undissolved crystals, which might plug the needle, and makes the injections in a concentric manner, letting his needle enter into the surrounding healthy tissues. Von Mosetig does not share Stilling's fear that too large an amount of the dye could enter the blood and thus do harm by staining the red blood-corpuscles. In several hundreds of these injections neither he nor his assistants had ever seen any untoward accident. Microscopical examination of extirpated pieces of three different new growths, which had been injected, made by Riehl, of Vienna, demonstrated that the nerves, muscles, connective tissues and young epithelial cells were diffusely dyed, but the nuclei only slightly, or not at all. To explain this phenomenon and at the same time the necrobiosis or fatty degeneration and reabsorption of the growths after the injections (which in his opinion can only take place if the cells and the cell-nuclei of the neoplasm themselves have really been affected by the pyoktanin), Von Mosetig advances the hypothesis that the pathological cells or their nuclei contain a specific chemical substance, which is able to reduce the aniline dyes in such a way that the latter lose their blue color; in other words, that this at present unknown substance reduces the blue aniline dyes to white, that is leukaniline. When the tumor has been extirpated and sections have been prepared from it for microscopical examination the leukaniline in them, being exposed to the oxygen of the air, turns blue again. Now a poisonous chemical product has lately been found in carcinomata by Adamkiewicz, which, inoculated in rabbits, kills them by paralysis of the brain in a few hours. Perhaps this poisonous product reduces the aniline dye and therewith becomes neutralized itself. This again might then explain the following regressive fatty metamorphosis and arrest of further growth. It is, however, necessary to state that this poison has only been found in cancers and not in sarcomata, which also react upon the aniline dyes.

Billroth[1] is rather sceptical in regard to the value of pyoktanin injections in cases of malignant growths. Three patients, having far advanced sarcoma (posterior aspect of thigh, sternum, popliteal space) got worse; one of them died of sepsis. The tumors were softened and the covering skin was perforated. This occurrence can only be looked upon, according to Billroth, as unfortunate to the patient. The exulcerated growth troubles the patients much more and will render their condition more dangerous. Patients afflicted with exulcerated cancerous growths also did not improve. Billroth does not believe that pyoktanin, when injected, has any specific influence whatsoever, but that it is merely the water, which, forcibly pressed into the tissues, makes them swell and later unable to live.[2] The researches are continued in his clinic.

The aniline dyes were first externally applied in two of my patients at the Country Branch of the New York Skin and Cancer Hospital. The treatment was started on January 2d, this year.[3] We used fuchsin, first in solution, then in ointment. Since February 20th, after having read Von Mosetig's original communication, I substituted pyoktanin for fuchsin, as it is chemically pure, especially free from arsenic, and also more soluble in water.

Since that time nine patients of the New York Skin and Cancer Hospital, all suffering from cancer, have been treated with local applications of pyoktanin in ointment, powder, or substance, and with parenchymatous injections of pyoktanin solution, 1 to 300. Their cases have been very carefully observed and treated by Dr. F. Torek, Assistant-Surgeon to the Skin and Cancer Hospital, the house-staff of the City Hospital and the Country Branch, and myself. Two patients of my private practice, one of whom has a recurring cancer of the breast, the other an inoperable cancer of the rectum, which necessitated anterior colotomy three months ago, have also been subjected to this treatment (in the first ethyl-pyoktanin was first used). They have been, however, only for a short time under observation. Their histories can therefore not be used for this communication. In two of the nine hospital patients the treatment was begun when both were very

[1] Ueber die Therapeutische, Verwerthung der Anilin-Farbstoffe. Wiener klin. Wochenschr., 1891, No. ii., p. 201.

[2] Wiener klin. Wochenschr., No. 12, p. 224, and Wiener Med. Presse, No. ii., p. 429.

[3] According to my experience with irrigating irritable bladders with pyoktanin solution, 1 to 1,000 was found to be too strong. One should rather begin with 1 to 5,000 or even 10,000, and then slowly increase the percentage.

[1] Wiener klin. Wochenschr., No. 12, p. 236.

[2] Stilling is strongly opposed to this explanation (Wien. klin. Wochenschr., April 2d, p. 263). He maintains that it has been clearly shown "that the living protoplasm of plants, as well as animals, is colored and at last destroyed by the aniline dyes. The latter takes place as soon as the dye is introduced into the cell in so large a quantity that the cell cannot get rid of it any more by diffusion." Stilling advises at the same time to make up the solution with a 0.6 per cent. solution of chloride of soda, in order to avoid embolies of the capillaries with undissolved pyoktanin-crystals (Neudoerfer).

[3] In my first communication to the New York MEDICAL RECORD (March 7, 1891, Correspondence), the date of commencing this treatment was erroneously put as January 6th.

low already. One of them died from cachexia, the other from a chronic nephritis of long standing. I am sure that, in both, the very short use of pyoktanin had nothing to do with their death. I nevertheless regret that a post-mortem could not be made. The other seven are still under treatment, three of them only for a rather short period. Their histories will appear in a later paper.

The histories of the remaining four cases, as far as they may perhaps be of interest, are in a condensed form as follows :

Case I.—Mrs. E. M——, aged seventy-three; German. Large ulcerated epithelioma (rodent ulcer) of scalp, forehead, nose, and eyes of twenty years' standing. Left eye entirely destroyed; also a part of both lids of right eye. Patient is still able to see indistinctly with the latter to a distance of about one to two feet. Excruciating pains, especially during the night, for a long time.

January 2, 1891.—Application of fuchsin, 1 to 250 (equal parts of alcohol and water), on a portion of wound. (Dr. A. C. Lewis.)

January 6th.—No discharge from this spot; surface of a more healthy appearance.

January 10th.—There is a little discharge. The sore presents "a fairly healthy granulating surface."

February 14th.—Condition unchanged; there seems to be no tendency to spread.

February 20th.—Patient states that the former pain has entirely disappeared. "This is the best treatment she has so far undergone." Application of pyoktanin 1 to 200 talcum.

March 24th.—Wound continues to present a more healthy, rather granulating base, and has perceptibly decreased in size around border on top of head; a small area has cicatrized there; at several other points, notably at the middle of the forehead, there is a tendency to heal. The hard borders have softened. Discharge scanty, but not as much as under the original fuchsin treatment. A number of grooves seem to be more excavated than formerly (this is most probably due to necrobiosis of the cancerous tissue). Patient has but little pain. The borders of wound touched with large pyoktanin stick, likewise the right upper eyelid; powder, strengthened to 1 to 50 talcum.

Case II.—G. B——, aged seventy-one; German. Defect of nose, recurrent exulcerated epithelioma of neighboring parts of both cheeks and of glabella, of inner third of the left lower and both right eyelids, cancerous infiltration of the upper lip.[1] Since 1886 rhinoplasty twice performed at the German Hospital; recurrence; amputation of the second nose, which had been made by plasty, in 1889, at the New York Skin and Cancer Hospital. A number of further attempts during this year to check the continuous spread by operative interference, also applications of different chemicals without result.

January 6, 1891.—External application of fuchsin solution, 1 to 200 alcohol, started; on account of pain lanolin was soon substituted for alcohol.

February 25th.—The former frequently excruciating pains, which disturbed the sleep, have entirely disappeared; the secretion has stopped. The base, formerly showing all the characteristics of an exulcerated epithelioma, has become smooth and rather resembling a granulating surface. The grooves are more shallow, the hard and thickened borders nearly all around soft and sunken in. During the seven weeks that the fuchsin has been in use the growth has not spread, except on the left cheek, where a small nodule, still surrounded by healthy tissue, has made its appearance near the border. A perforation through the upper lip into the mouth has also not extended.

March 4th.—The whole surface was painted with the large pyoktanin pencil, and then powdered with pyoktanin in substance. Parenchymatous injections, 15 minims each, of pyoktanin solution, 1 to 300,[2] were made underneath small, hard nodule in left cheek, both sides of upper lip, and into recurring exulcerated cancer of the size of a small cherry in the left submaxillary region (a large secondary growth had been removed there eighteen months ago); injections in the face very painful. In the following days patient complained of a great deal of pain.

March 6th.—Pyoktanin, 1⅔ grain in capsule, administered internally, was not retained by the stomach.

March 11th.—Second injection, 15 minims at different points of upper lip; 8 minims in the submaxillary growth.

March 13th.—Parenchymatous injection of 20 minims into lower half of right border of the ulcer; the border is still swollen.

March 16th.—Patient complains of continued pain. The perforation through the upper lip into the mouth has extended (rapid breaking down of former infiltration). The wound appears to be deeper. The left eye is injected, its lids swollen (paralysis of vasomotor nerves?). Patient states he has by far more pain than under the fuchsin treatment.

March 17th.—Fuchsin ointment reapplied.

March 25th.—Patient complains of no pain. The sore appears rather healthy, but has extended in its lower part, the hard border which was especially injected with the pyoktanin solution having broken down on many spots. Nodule on left cheek and in submaxillary region partially necrosed, giving exit to a very scanty dark-bluish secretion. No œdema. So far no tendency to cicatrization.[3]

Case III.—Mrs. C. M——, aged fifty-nine; German. Recurrent cancer of right breast. Amputatio mammæ and extirpation of cancerous axillary glands at the German Hospital. Double ligature and excision of a piece about one inch long of vena axillaris. Diffuse cancerous infiltration surrounding the subclavian vein and reaching under and above the clavicle had to be left behind. Primary union of the wound. Admission to the Skin and Cancer Hospital, January 9, 1891.

February 20th.—Œdema of right arm, which can only be very little abducted from the chest-wall. Infiltration in right infra-clavicular groove and quite markedly also below the broad scar, which is the result of the operation. Above the latter, especially toward the axillary region, disseminated small cancerous nodules. Injection of 1 drachm of the pyoktanin solution into different spots above the scar. Massage for one-half hour with the intention to press the fluid upward into the axillary cavity. During the following night patient complained of a great deal of pain in axillary region. Temperature normal.

February 23d.—Injection of the same amount; immediate marked bluish discoloration of the skin. It is evident that the small nodules are not injected. Evening temperature, 100.5° F., rectum.

February 26th.—Injection of 1 drachm into the growth, and 15 minims underneath and into a number of cutaneous nodules. Massage.

February 27th.—The mucous membrane of the gums along the border of the teeth appears bluish.

March 3d.—Cicatrix perforated in length of one inch; blue-colored, œdematous tissue making its appearance. Pain on pressure above this spot. The whole infra-clavicular region pinkish-red and œdematous. No rise of temperature. The nodule, injected five days ago, has flattened, and is decidedly indistinct in its contours. Injection of four small cutaneous nodules at their base with 15 minims of the pyoktanin solution each. One more drachm into different spots of the diffused swelling, 2 drachms in all. The newly opened spot is powdered with pyoktanin in substance, and then covered with a piece of iodoform gauze.

[1] Patient was presented to the New York Surgical Society on February 25th, and to the Scientific Society of German Physicians on February 27th. Cf. Report of the New York Surgical Society of February 25th, in New York Medical Journal, April 11th.

[2] Blue stains on the operator's fingers, got in making the injection, will be best removed by using the liquid green soap, or a solution of Castile soap in alcohol, 1 to 10.

[3] At time of correcting proof (April 21st) cicatrization has started at different spots.

March 6th.—One pill of pyoktanin, 1⅔ grain, in capsule, administered internally, was soon rejected. The small nodules have softened and are almost imperceptible to the touch. The infiltrated area also softer and œdematous. Patient can move the right arm much better than before the injections. Wound again dressed with pyoktanin in substance.

March 8th.—Slight hemorrhage from the broken spot.

March 11th.—The infra-clavicular region gives the sense of fluctuation; by pressing upon it a quantity of a thick, dirty bluish fluid, intermingled with shreds of broken-down tissue, and a great deal of fat escapes through the fistulous opening in the cicatrix.[1] Small fluctuating spot at the outer angle of the latter is incised. It contains blood mixed with the same grayish-blue material. Injection of 1 drachm of the pyoktanin solution.

March 13th.—Patient complains of pain in the region of injections. There is a continuous colored discharge from the opening.

March 16th.—The spot immediately above the cicatrix decidedly flattened, up to three fingers' breadth below the lower border of the clavicle. Pain on pressure, fluctuation, continuous discharge. A number of the small nodules, which formerly seemed to have entirely disappeared, again perceptible to the touch. I think that the disappearance was partially an illusion, owing to the occurrence of œdema, which temporarily concealed the nodules, but, which subsiding, left them again distinct. (A few of them certainly were reabsorbed.)

March 17th, 20th, and 24th.—Injection of 1 to 1¼ drachm of the pyoktanin solution each time.

March 26th.—The fistulous tracks in the injected area were split under ether. It was found that a thick ramified mass, dyed deep blue, was lying in the midst of normal uncolored fatty tissue. This mass evidently was necrosed tissue, which could be easily shelled out with the finger or the sharp spoon; in many spots it was still adherent to its surroundings. The underlying muscles and neighboring tissues appeared to be normal in color, but rather indurated. Dr. I. Adler kindly consented to make a microscopical examination of the necrosed mass. The doctor's report reads as follows: The fluid, of pale-violet color and containing small scraps of a solid matter, which formed an uneven and irregular sediment, was submitted to microscopical examination, and showed the following:

1. A colorless, serous, slightly viscid fluid. In this fluid were suspended globules of free fat in great profusion and of all sizes; fat-crystals; innumerable leucocytes of all kinds, principally, however, of the large polynuclear species; a comparatively small number of red blood-corpuscles, all these of natural appearance and entirely unstained. Furthermore, large masses of granular amorphous detritus, either suspended loosely throughout the fluid or else gathered together into more compact masses. These latter were sometimes diffusely stained of a very pale, grayish-violet tint.

2. The solid particles, which consisted of portions of fatty tissue and of patches of epithelial cells. The fatty tissue showed the regular polygonal fat-cells, sometimes emptied of their contents, sometimes filled with them. In either case a distinct and diffuse bright violet-staining of the membrane could be made out, while the fat itself never showed any color. The epithelial cells were of the large, irregular, flat pavement species, either singly or in groups. Wherever an epithelial cell was found, it was at once recognized by its deep saturated stain. The coloring was entirely diffuse, and no nucleus could be made out without the aid of acids.

The wound was loosely packed with iodoform gauze, which was freely dusted with pyoktanin in substance. Pyoktanin gauze, as manufactured by Merck & Co., was not just at hand.

March 30th.—First change of dressing; gauze removed. Very little secretion. Wound in perfect condition.[1]

Case IV.—Mrs. W——, aged forty-six; English. Admission to the City Hospital, February 24, 1891. Large ulcerated inoperable cancer of left breast, which involves both inner quadrants. Disease present for two years. Left breast is about three or four times larger than the right healthy one, and hangs down three inches lower. Nipple retracted and ulcerated. In inner, upper quadrant a large deep ulceration with thick everted borders; in left axilla and in the pectoral region a great number of small, cancerous, cutaneous nodules of various sizes. Superficial cancerous sore in left axilla. No œdema of left arm as yet.

February 28th.—Parenchymatous injection of pyoktanin solution, 1 to 300 (1 drachm), into both lower quadrants under the ulceration. Needle entered at different points and was gradually pushed forward from the healthy surrounding tissues. In the afternoon patient felt chilly and rather uncomfortable, complained of dizziness and a burning sensation over a certain portion of scalp. No rise of temperature. Ulceration powdered with pyoktanin in substance.

March 2d.—General condition good. Discharge of ulcer less offensive. Injection of 2 drachms of pyoktanin solution at different spots.

March 3d.—No dizziness at this time after yesterday's injections. One capsule of pyoktanin, 1⅔ grain, taken internally, thrown up within two hours. At the same time patient's bowels move quite freely.

March 4th.—Evening temperature, 101⅔° F.; no appetite; patient feels uneasy; capsules discontinued.

March 5th.—Three small cutaneous nodules in upper, outer quadrant injected; turned blue soon after; surface, when touched with a needle, was found to be anæsthetic; local anæsthesia confined to the bluish surface only, lasted over half an hour; extirpation of one nodule (for microscopical examination) thirty minutes after injection, was pronounced to be painless. Wound stitched with catgut and painted with pyoktanin collodion, three per cent.; parenchymatous injection into growth, 1 drachm.

March 6th.—Pyoktanin, 1⅔ grain, given internally as before, again badly borne; patient vomits and feels very weak; temperature, 103° F.

March 7th.—The nodules injected two days ago are noticeably smaller and less infiltrated; they were, with a number of others, reinjected, as also was the large tumor. Total amount, 1¼ drachm. A cyst, which had formed under the ulcer, was aspirated; it contained unstained blood.

March 9th.—The small nodules, mentioned before, considerably smaller and softer, but still perceptible. Parenchymatous injection of 1½ drachm into tumor and nodules.

March 11th.—Injected with same amount.

March 12th.—Patient dizzy and faint; no appetite; vomiting.

March 20th.—Tumor much softer, and in both inner quadrants markedly smaller. The often-mentioned hard nodule in inner upper quadrant has softened somewhat, but is still hard at its base. It was injected with 20 minims pyoktanin solution, 1 to 200; the larger growth with 1 drachm of same strength.

March 22d.—Since last injection stomach irritable; food frequently vomited; the skin, especially on the inner side of the tumor, is wrinkled; the formerly raised and everted edges of ulcer have flattened, and are much softer than before; the powdered pyoktanin on the ulcer always forms a dry eschar, which can be removed with the forceps, and is evidently necrosed tissue. On removing the eschar a dyed surface appears, which bleeds slightly; no discharge, but still some smell; below the ulcer two new perforations have formed.

[1] Careful microscopical examination of this fluid was kindly performed by Dr. I. Adler, of this city.

[1] April 21st, when correcting proof: Wound without secretion, closing, cicatrizing. Still some infiltration at inner end of former scar, also near the axillary cavity. Growth checked in its spreading. No parenchymatous injection since March 17th.

March 25th.—Small nodule in the inner upper quadrant has broken down, giving exit to the thick, bluish-dyed fluid; on pressure, a small mass of necrosed bluish tissue appears, and is easily extracted with the forceps. The surrounding shell still hard, but less so than before.[1]

In reviewing these four histories and also considering my experience with pyoktanin as well as ethyl pyoktanin in my private patients, I should like to state the following facts in regard to the treatment of inoperable malignant growths with these aniline dyes, as far as they have been exhibited up to date (April 8th):

The aniline dyes, applied on the surface of exulcerated growths in ointment or powder (about 1 to 200), or in substance, have a strong analgesic effect.[2]

Parenchymatous injections of pyoktanin solution, 1 to 300, repeated every second day till fifth day, the dose not exceeding one and one-half drachm, have in my cases proved to be innocuous to the general system.[3]

The symptoms following the injections are either general or local.

The general symptoms, which can also follow the internal use of methyl blue (as recommended for inoperable malignant neoplasms by Dr. Max Einhorn of this city),[4] are nausea or vomiting, weak and slow pulse, headaches, general malaise. These symptoms may come on the same day or the day following the injection; as a rule, they do not come at all; now and then there is a slight rise of temperature, usually subsiding within twenty-four to forty-eight hours.

The local symptoms are:

1. Pain following the injection. It may be of long or short duration, slight or severe. It is more severe where the cancerous infiltration affected by the injection is dense (epithelioma of face, disseminated cancer of breast, etc.). It seems that local anæsthesia may follow the injection.

2. Œdema, coming on either acutely, and then accompanied with slight redness (non-inflammatory) and pain on pressure, or rather in a subacute form. This serous transudation of the growth may be the first step to reabsorption. The slight fever, observed in a number of patients, soon following the injection, had then to be looked at as being an aseptic one, possibly due to this reabsorption.

3. Breaking down of the injected tissue, with perforation of the skin or scar, which latter is the result of the operation (aseptic necrosis). By using a stronger solution, 1 to 200, the necrobiosis seems to be more rapid in smaller nodules. How far the surrounding infiltrated shell which is left behind is apt to spread farther can only be determined by continuous observation. It may be advisable to use a weaker solution, 1 to 500, instead of 1 to 300, as we can thus dye a larger portion of the growth in one sitting, without increasing the dose of pyoktanin. We then inject a larger quantity of solution and still need not apprehend general symptoms. Perhaps the weaker solution will not destroy the tissue so rapidly and thus rather induce reabsorption than necrosis. The sinus or sinuses established by the breaking down of the tissues give exit to a thick, dark-blue fluid, which, by microscopical examination, proves to be not colored pus, but débris of the injected neoplasm. It is generally intermingled with shreds of necrosed tissue. In splitting these sinuses one may find necrosed, deeply dyed, ramified tissue, surrounded by normal undyed fat and muscles,[1] which is easily shelled out. Whether it will be necessary and possible to remove the necrosed tissue by operation or whether this tissue will be extruded by means of a slow disintegration and longer secretion cannot yet be determined. We also have to prove yet, whether operative interference in this stage will really benefit our patients. Perhaps nature gets slowly rid of the necrosed tissue without help. As it seems, the carcinoma tends more to necrobiosis and perforation during this treatment than the sarcoma. I personally could so far only subject cancer cases to the color cure. (V. Mosetig had his most striking results in patients suffering from sarcoma (see above). He maintains that the injections, made under antiseptic precautions into neoplasms, which are still covered by healthy skin, produce necrobiosis and fatty degeneration, which is not followed by perforation, but by reabsorption.[2] Billroth, on the other hand, saw rapid softening and perforation in two out of three patients who suffered from sarcoma and were treated with the injections.)[3]

4. Breaking down of the injected tissue (necrobiosis) with subsequent reabsorption (Cf. 3). This will probably be oftener seen, if we stop the injections for some time as soon as spots in the growth have softened, and only start them again after these spots have shrunk (provided, of course, that they did not perforate). Small, hard nodules in the skin, as seen especially in the disseminated cancer (recurring cancer of breast), can entirely disappear in a very few days, even if the pyoktanin solution was injected into their base.[4] Perhaps the rapid disappearance is not reabsorption but only an illusion, which is caused by the œdema of the immediate surrounding tissue. A number of the nodules reappear after a few weeks, sometimes rather multiplied. The attempt at dyeing these small nodules directly, by pushing the needle right into them, is frequently unsuccessful, even in regard to the microscopical appearance, and causes severe pain.[5]

An infiltration of hitherto healthy tissue with the neoplasm, in consequence of this treatment, has not been observed in a single case.

In no case did the growth spread during the treatment.

Applications of pyoktanin in substance on exulcerated tumors slowly removes the diseased tissue in the shape of dry gangrene. There is no suppuration under the eschar, on account of the strong antiseptic qualities of the dye, and consequently no cachexia. Pyoktanin is, however, no deodorizer. It also is no stypticum.

It may be advisable to combine the parenchymatous injections and local application of pyoktanin with giving aniline dyes internally. Pyoktanin is, in my cases at least, not borne by the stomach. Methyl-blue seems at present to be the most preferable.

If it could be proved by further observations that continued injections determine the necrobiosis of "all" the diseased tissue, the use of the aniline dyes, especially pyoktanin in its different ways of application and methyl-blue, will have a permanent place in operative surgery, no matter how much time the cure demands, no matter whether it is accompanied by pain, inconvenience, and dangers to the patient.[6]

[1] April 21st: The last mentioned spot nearly closed; no infiltrated shell. Whole growth greatly reduced in size (1/4 to 1/5); no spread.

[2] I have seen the same effect in other painful sores, as ulcer of leg and especially in fissura ani.

[3] The injections have to be made under careful antiseptic precautions. The needle must be boiled before use and then kept in alcohol. The skin of the area where the injection is going to be made must be cleansed with ether. The solution must be kept in a dark bottle, otherwise it is decomposed; 0.6 per cent. solution of chloride of soda should be used instead of water.

[4] Methyl-blue was first used internally by Ehrlich (Ueber schmerzstillende Wirkung des Methylen-blau, Deutsche Med. Wochenschr., 1880, No. 23). Lang saw good effect of its internal administration in cases of cystitis and pyelitis (Wiener klin. Wochenschr., 1891, No. 6, p. 114). Methodical internal application of methyl-blue as a help in hopeless cancer cases was first tried and recommended by Drs. J. Rudisch and M. Einhorn, of this city (New York MEDICAL RECORD, March 21, 1891, Correspondence). The proper maximum dose pro die seems to be about five grains. It is best given in capsules, each containing 1 1/3 gr.

[1] This observation coincides with the remark of Stilling, that a normal, living cell will retain the fluid only for a short while (it is well known that the fat-cells are never stained by aniline) getting rid of it by rapid diffusion. Only diseased or dead cells will retain the dye permanently.

[2] Wiener klin. Wochenschr., 1891, No. 12, p. 224. [3] Ibid., p. 236.

[4] Conter v. Mosetig, Wiener klin. Wochenschr., 1891, No. 6, p. 102.

[5] Microscopical examination found the cells and nuclei of the new growth, small or large, unstained (Riehl). To explain this v. Mosetig advanced a special and interesting hypothesis (see above). It must, however, be stated in regard to the examination made by Riehl, that the neoplasm from which the specimen was taken had been injected only once. Perhaps another result had been obtained, were the injections repeatedly made into the same spot before extirpation.

[6] Proper care can do away with or avoid a great deal of the latter. The pains after injections into densely infiltrated spots may, I hope,

It might then be advisable in patients who can still stand some loss of blood to remove as much of the new growth as can be reached with the knife or cautery, and then to inject. The size of the consequent granulating surface, as long as it is only healthy, would be immaterial. Skin-grafting would determine cicatrization.

If, on the other hand, continuous observations should demonstrate that necrobiosis with perforation or with fatty degeneration and reabsorption does only affect a portion of the neoplasm, and diseased tissue is left behind in spite of a long and careful treatment, we will certainly do much better not to begin any such treatment at all, at least not as long as the tumor is still covered by healthy skin. Billroth [1] has already emphasized this fact.

But suppose, that future observations should really demonstrate that the aniline dyes do not specifically attack carcinoma and sarcoma, as Billroth seems to apprehend, their administration will nevertheless be of great value to the poor hopeless patients. We will be able, by using them, to check the "exulcerated" growth from further spreading and thus lengthen life for some time at least; we will prevent cachexia; we will alleviate the sometimes so excruciating pains in such cases of ulcerating neoplasms where neither morphine nor cocaine can bring any benefit.

REMOVAL OF LARGE FRAGMENT OF GLASS FROM LARYNX AFTER LODGEMENT FOR TWENTY-ONE MONTHS.[2]

By CHARLES C. RANSOM, M.D,

CLINICAL ASSISTANT IN DEPARTMENT OF DERMATOLOGY, COLLEGE OF PHYSICIANS AND SURGEONS, NEW YORK.

On July 31, 1890, Mrs. P——, of Troy, N. Y., applied to me for treatment in the inhalation department of the bathing establishment at Richfield Springs, for a throat trouble from which she had suffered for over a year and a half, and gave the following history:

On October 25, 1888, while at lunch with her family, being at that time in usual good health, she was in the act of eating a piece of squash pie, and while doing so suddenly strangled, and for the next thirty minutes it seemed doubtful if she could survive the terrible fit of coughing. The family physician was summoned, and apprised of the apparent cause of such strangulation. Within twenty minutes the physician arrived, bringing with him the necessary instruments for examining the throat and for the removal therefrom of any foreign substance which might cause strangulation.

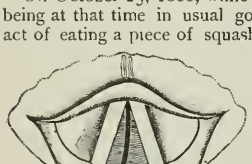


FIG. 1.—The dark line represents position of the glass as it appeared in the mirror.

The physician examined the throat, and after the examination declared that he could not discover any article of food or other body which might have brought on such an attack.

Although nearly exhausted by the struggle, the patient still insisted that there yet remained some obstruction in her throat, which not only choked her, but greatly impaired her power of speech. But her physician was convinced that if anything had lodged in her throat causing the distress which she had explained, it no longer remained there, and had probably been swallowed. However, the patient remained very weak and nearly speechless. For six weeks she was under constant medical treatment. After that lapse of time she began to regain her strength slowly, but for a period of six months she was confined to her house, unable to carry on any conversation above a whisper. She still continued to feel constant irritation, causing her to cough and occasionally to raise phlegm. With slight improvement in her voice and general health, weeks and months passed, bringing with them no permanent relief.

This condition of affairs continued until July 31, 1890, when she presented herself to me for treatment. Upon examination of the larynx I saw what first appeared to be a crack in my laryngoscopic mirror, extending across its face. Upon removing the mirror I found it intact, and then knew that I had a foreign body of some sort to deal with. Upon further examination I discovered that the black line, which I had first thought to be a crack in the mirror, was the smooth polished edge of a piece of glass which hung suspended antero-posteriorly between the vocal cords and on a plane slightly above them, the body of the glass swinging free in the glottis. Upon my making known the nature of the trouble the patient was immediately thrown into such a nervous state that an operation, or further examination even, would not be listened to.

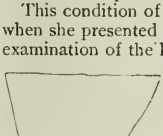


FIG. 2.—Glass after removal. Actual size.

Two days later, on August 2d, the patient returned to me for the removal of the glass. After brushing the larynx with a four per cent. solution of cocaine, I succeeded in removing the glass with the Shrötter tube-forceps, in the presence of Dr. William Baker Crain, of Richfield Springs, and the members of her family. The piece of glass removed, which I take great pleasure in showing you, is doubtless a piece of a very thin wine-glass, which had gotten by accident into the food, and which is triangular in shape, and measures on the three edges, $\frac{7}{8}$ of an inch, 1 inch, and $1\frac{1}{4}$ inch, respectively. Upon removal of the glass, the voice was improved at once, and the irritation which troubled her for so many months, to a very great extent disappeared. After its removal there was seen slight swelling at the posterior point of contact, with a small papillomatous growth. In other respects the larynx appeared quite normal.

The remarkable features of the case are the large size of the foreign body and its character, the length of time it remained in place (one year, nine months, and ten days), and slight results produced from the long continued irritation.

56 WEST FORTY-NINTH STREET.

TWO INTERESTING EYE CASES.

By J. M. BANISTER, A.B., M.D.,

CAPTAIN MEDICAL DEPARTMENT, U. S. A.

CASE I. *Melanotic Sarcoma of the Choroia.*—The relative infrequency of choroidal tumors, which are found in the small proportion of one in every fifteen hundred eye cases, and the pathological interest connected with a case of melanotic sarcoma recently under my care induce me to bring the case in question to the notice of the profession.

Mr. M——, sixty-one years of age, consulted me June 25, 1890, on account of a large growth involving the left eyeball, both lids, and the orbital contents of the affected side.

Upon examination, I discovered a dark colored, somewhat lobulated tumor, about as large as a small orange, protruding from the left orbit, and overlapping the greater portion of the orbital margin. This growth had taken the place of the eyeball, and protruded from between the lids, which, though occupying their relative positions, were

be overcome by paying special attention that the dye is properly distributed through the growth. A larger amount of fluid deposited in one spot must of course greatly increase the local intra-parenchymatous pressure and immediate pains. It will also produce rapid local necrobiosis. The addition of a few drops of a five per cent. solution of cocaine to the fluid, where it is to be injected into infiltrated spots, did also help to reduce the pain. By keeping one's self with the amount inside of proper limits ($\frac{1}{2}$ grain) no poisonous effect need be feared from the use of this salt. A careful antiseptic management of the case will fight all dangers possibly arising from the presence of an open wound.

[1] Loc. cit.

[2] Read before the Laryngological Section, Academy of Medicine, March 24, 1891, and specimens shown

greatly stretched, being spread out, so to speak, over the contiguous portions of the tumor. The lower lid, throughout its entire extent, was firmly adherent to the growth, and had to all appearances become a part of the latter, while the upper lid was free at its ciliary margin, but attached to the tumor near its orbital margin, its base being evidently infiltrated with neoplastic elements. Both lids, notwithstanding their great elongation, were thickened, and of a dusky appearance.

The following history was elicited from the patient and Dr. Banta, Physician of the Mescalero Agency, New Mexico, who had been in charge of the case, and who now accompanied Mr. M——.

Twelve years before, the patient had a very severe inflamatory disease of the eye; the globe became very hard and much swollen, and finally ruptured. Before the rupture the pain had been intense, but after this occurrence it soon ceased. The globe then began to shrink and finally became atrophied, and remained in this condition for *eleven years*.

About one year before the case came under my observation, the eye, which had remained quiescent for so long, became irritable again, and soon thereafter began to enlarge. The enlargement increased very rapidly, and the Agency physician, who had charge of the case, soon discovered a staphylomatous protrusion at the lower portion of the sclero-corneal junction. The tumor escaped from its intra-ocular limits at this point, and soon began to protrude in front of the globe. Its growth now became very rapid, and, when I first saw the case, had attained the dimensions before described. A few weeks before this time the patient had been much weakened by a severe hemorrhage from the growth, which was checked with great difficulty.

I diagnosed the tumor as a case of melanotic sarcoma of the choroid. When the nature of such an affection was explained to the patient, he at once demanded an operation, and persisted in his demands even after having been made to understand the danger of operative measures upon the tumor at this stage of its development (extra-ocular stage) and the almost absolute certainty of the return of the growth in some other organ, or *in loco*, even after a seemingly successful operation.

Under the circumstances, I agreed to operate, and upon June 28th the patient was etherized, and the operation performed with the usual antiseptic precautions. The outer canthus was first divided, and the upper lid separated from the tumor; a narrow scalpel was then introduced into the orbit and the growth encircled by an incision close to the orbital wall, the lower lid being treated as a part of the morbid growth, and, hence, divided close up to its orbital margin. After this preliminary incision, the remaining dissection was performed with scissors curved on the flat, and all of the orbital contents were removed as completely as possible down to the apex of the orbit. The hemorrhage during this operation was fearful, the blood pouring out of the orbit in streams. After the tumor had been removed, the hemorrhage was easily checked. The patient's condition had become so alarming by this time that the removal of the upper lid was postponed until two or three days after the operation, when it was removed close up to its orbital attachment.

During the removal of the tumor its true melanotic character became very evident; it was a typical melanotic sarcoma. All of the contents of the orbit were involved, the sarcoma filling the cavity from wall to wall and from base to apex, and having seemingly taken the place of everything else. Anatomical distinctions were obliterated, the orbit seeming to contain sarcoma, and nothing but sarcoma.

The orbital cavity was treated in the manner usually adopted in such cases, and hence no description of after treatment is necessary.

Some authors advise the application of chloride of zinc paste to the orbital walls, after having carefully removed all visible particles of the morbid growth, in order to cause exfoliation of any diseased bone that may possibly exist, as well as to destroy any remains of the neoplasm which may have escaped observation. This treatment, however, is not free from risk, as one can well understand when he bears in mind the extreme thinness of the roof of the orbit, and the danger of the application of the caustic being followed by fatal meningitis. No one can be sure in such cases that the caustic action will not extend more deeply than desired.

Dr. Noyes states in his recent valuable work on the eye, that in one case in which, after an operation of this kind, he used the thermo-cautery simply for the purpose of checking hemorrhage, fatal meningitis resulted.[1] If such an easily managed instrument in such skilful hands can be followed by this deplorable result, great caution should be exercised in the use of such an uncertain caustic as chloride of zinc.

An immediate result of the extirpation, above described, was total loss of sensation over the corresponding half of the scalp from the orbital margin as far back as the occiput. This was evidently due to the destruction of the orbital portion of the frontal branch of the ophthalmic division of the fifth nerve.

The patient was able to return to his home on July 6th, eight days after the operation. I have just recently received a message from him to the effect that he was never in better health than now, and that he has had no trouble since the operation.

Pathological Considerations.—The original trouble in this eye, which occurred twelve years prior to the operation, was, in my opinion, an irido-choroiditis, which assumed a purulent type, or, in short, became a suppurative panophthalmitis. The eye ruptured, and atrophy of the globe followed. Now this interesting question presents itself: Was the original inflammatory trouble caused by the commencing sarcoma, or was the tumor the result of the former? I believe that the sarcoma was the result, and not the cause. If the neoplasm had been the cause of the inflammatory disease, it would have given unmistakable evidence of its presence in other ways, and would not have remained quiescent for eleven years. This fact, alone, proves it to have been a secondary affection. Soelberg-Wells says: "The causes of intra-ocular sarcoma are yet uncertain, but there is no doubt that it not unfrequently becomes developed after injuries of the eye. It may also be formed in eyes which have undergone atrophy after irido choroiditis, etc. Here, however, we must be on our guard not to mistake cause and effect. But if the eye has been for many years lost from irido-choroiditis, before the symptoms of an intra-ocular growth reveal themselves, it may, I think, be fairly assumed that the latter is a secondary affection. Thus, Mr. Bowman removed an eye affected with melanotic sarcoma, which had been lost from acute inflammation twenty years previously."[2] I feel compelled to make the above long quotation, as it fully sustains my position.

As before stated, choroidal tumors are rare, occurring once in fifteen hundred eye cases; about eighty per cent of these tumors are sarcomata, the melanotic variety being largely in the majority. Of 259 cases of sarcoma of the eye, collected by Fuchs from the practice of different surgeons, 221 occurred in the choroid, and of this number 196 were melanotic.[3]

Prognosis.—I think it highly probable that there will be a return of the sarcoma within a year, either as a recurrence in loco or in some other organ by metastasis. According to Fuch's statistics, out of 117 cases in which extirpation was practised after the tumor had become extra-ocular, there was a local recurrence in 26 cases.[4] Berry says, also, "There are no statistics, as far as I am aware, which give any idea as to the frequency of metastasis; on the other hand, the proportion of cases where complete

[1] Noyes Text-Book on Diseases of the Eye, p. 541.
[2] Soelberg-Wells: Diseases of the Eye, p. 374.
[3] Berry: Diseases of the Eye, p. 346.
[4] Ibid., p. 352.

recovery has followed the operation, and where the patient has been known to be alive five years afterward, is certainly very small."

At the time of the present writing, my patient seems, from his own account, to be in excellent health, and this fact justifies, in my mind, the operation.

Case II. *A Case of Double Rupture of the Choroid below the Optic Papilla.*—Ruptures of the choroid being of especial interest to ophthalmologists on account of their rarity as well as by reason of the permanently defective vision usually resulting therefrom, I feel constrained to report a case of this character, in which there was a dual lesion in an unusual situation.

Private O— — of the Sixth United States Cavalry, Fort Stanton, New Mexico, was accidentally struck on the right eyeball by a small pebble thrown by a companion early in July, 1890. The pebble coming from the right, struck the globe, between the open lids, on its right or outer side near the equator, the eye being turned to the left at the time. Some weeks after the reception of the injury this soldier reported to me in consequence of defective vision in the eye mentioned.

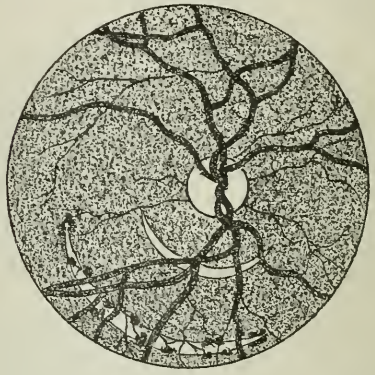
Externally, the eyeball appeared normal, with the exception of the pupil, which was considerably dilated. Upon using the ophthalmoscope, I discovered a double rupture of the choroid, both tears (crescentic in shape, with the concavity of each turned toward the optic papilla) being situated below the disk, instead of on its outer side, as is the almost invariable rule in such cases. The smaller rupture was distant from the papilla about one diameter of the latter, and presented the somewhat yellowish appearance shown in the accompanying figure, its outer extremity bearing the relation to the external inferior quadrant of the optic disk as there depicted. The larger tear was of a decidedly crescentic shape, and was situated near the visible limit of the periphery of the fundus, curving concentrically with its smaller fellow.

I made, from time to time, repeated ophthalmoscopic examinations of this case, and the accompanying sketch is intended to represent the appearance of the fundus at the time of my last examination, about three months after the reception of the injury. This sketch was made from memory, but it serves to give an idea of the relative situations and appearances of the lacerations. The smaller rupture (see figure) was evidently partial, that is, it did not involve all the layers of the choroid, as is proved by its yellowish appearance. If it had extended down to the sclerotic it would have had a decidedly white appearance, such as is exhibited by the larger tear. The latter presented, when last seen, an appearance very similar to that portrayed in the figure. Little islands of pigment were scattered at odd intervals along its sides and around its cornua, and a few were discovered on its surface. Here and there, in the deeper portions of the rent, remains of choroidal vessels could be distinguished (see figure). This rupture extended deeply, as was proved by the glistening, white appearance of the underlying sclerotic. The retina was, to all appearances, unaffected, and the retinal blood-vessels were clearly exhibited as they crossed the rents.

The pupil was still dilated, this being due, most probably, to an involvement of the short ciliary nerves with a resulting partial paralysis of the sphincter pupillæ. Stellwag is of the opinion that this is the cause of the dilatation and sluggishness of the pupil observed in such cases.[1]

Bearing in mind the origin, course, distribution, and function of the short ciliary nerves, one can well understand how such could be the result of a deep choroidal laceration. These nerves, ten or twelve delicate filaments in number, arising from the anterior portion of the ophthalmic ganglion in two separate bundles, pass forward to the globe above and below the optic nerve respectively, and, piercing the back of the eyeball, run forward along the inner surface of the sclerotic to the iris and ciliary body. These nerves supply the sphincter pupillæ, being in fact motor nerves, and derive their motor influence from the third nerve through the ophthalmic ganglion. A deep tear of the choroid, extending well down to the sclerotic, might directly involve several of these filaments, the immediate effect of the injury being either a rupture or a stretching of the filaments directly beneath the rent, with the abolition of their functional activity. Moreover, the remaining ciliary fibres, not directly involved by the tear, might be stretched by the pressing in of the region of the optic papilla as the direct result of the blow upon the globe, as explained in the latter part of this article under the discussion of the mechanism of choroidal ruptures.

This dilatation is not often due to loss of light perception. In my case, while central vision was reduced to $\frac{1}{20}$, light perception was good, the patient even complaining of the sensation of dazzling when exposed to a



bright light; the inconvenience resulting from such exposure necessitated, at times, the wearing of smoked glasses.

As mentioned above, at the time of my last examination, vision was reduced to $\frac{1}{20}$, the patient being unable to distinguish the large E of Snellen at a greater distance than ten feet ($V = \frac{10}{200} = \frac{1}{20}$).

The usual location of choroidal ruptures is in the region of the macula lutea, and the tears run through this region in a vertical direction.[1] Stellwag says that they are almost invariably situated "on the outer side of the optic papilla."[2] In my case, the ruptures were below the optic papilla, and ran somewhat horizontally, and this fact (together with the dual lesion) marks the case as very unusual, to say the least. While a number of cases of double rupture of the choroid have been reported, nevertheless, their rarity is such that they are of unusual interest to ophthalmologists, and it does not fall to the lot of one observer to see many of them. George A. Berry, the celebrated Edinburgh ophthalmologist, says in his recent work on the eye that he has seen one such case.[3]

The mechanism of choroidal ruptures is a very interesting subject, and is one also upon which there is far from being a consensus of opinion on the part of our best authorities. It has been found a very difficult matter to explain satisfactorily why a direct injury to the eyeball will, in the immense majority of cases where laceration results, cause a rupture of the choroid alone, the retina being left intact, and why such tears will almost always be crescentic in shape and arranged "concentrically with the papilla."

Some authorities consider such lacerations due to contre-coup, while others attempt to explain them by stating that, in consequence of the firm attachment of the

[1] Stellwag: On the Eye, p. 227.

[1] Soelberg-Wells: Diseases of the Eye, p. 378.
[2] Stellwag: On the Eye, p. 226.
[3] Berry: Diseases of the Eye, p. 173.

choroid at the posterior pole of the eye, it cannot yield readily, as can the retina, when occasion demands. Hence, when a blow is received upon the globe, the retina yields and escapes injury, while the choroid receives the brunt of the injury and gives way. Neither of these explanations accounts for the peculiar shape and arrangement of the lacerations. Becker's theory, as given by Berry, seems by far the most probable. "Becker supposes that at the time of the blow the nature of the distortion which the eye suffers is a pressing in of the optic nerve toward the middle of the eye, producing a fold or a series of folds in the coats immediately surrounding the papilla. At these folds both retina and choroid are stretched, but the former being more elastic and less firmly fixed, yields, whereas the latter, from the nature of its attachments, gives way." [1]

Fort Stanton, N. M., December 26, 1890.

DIABETES MELLITUS.[2]

By JOSEPH T. SMITH, M.D.,

visiting physician to bay view asylum, baltimore, md.

Dr. Peter Shaw, in his "New Practice of Physic," published in 1753, covers the whole subject of diabetes as follows:

"1. A diabetes is a frequent and copious discharge by urine, wasting away the body by degrees.

"2. It may proceed from the serum being too much attenuated; from the glandulæ renales being too much dilated; and from the cuticular vessels being too much contracted.

"3. The signs of it are an immense thirst, not satisfied by drinking, because of the sudden separation made by the kidneys; the whole body is emaciated; and generally a hectic fever, with a quick and weak pulse, accompanies this distemper.

"4. A diabetes is always difficult to cure, and generally proves mortal if it continues long. In old age it is very dangerous, as also when it happens after immoderate venery or fevers of a long continuance.

"5. A subastringent and acid diet is thought proper in this case. Red wine is allowable in moderation. Coffee seems to be no improper liquor; but the decoctum album and tinct. rosar. rub. are excellent, and ought to be drank pretty freely. Moderate exercise is of service if the strength of the patient will allow of it.

"6. As we can have no certain criterion when this distemper is occasioned by the juices being too much attenuated, or the pores of the glandulæ renales too much dilated; the best method we can take is to prescribe such medicines as will equally serve in both cases, and those must consist of astringents, anodynes, and balsamics or agglutinants; which will not only serve to thicken the juices, but also constringe the pores.

"In this case there seems to be no occasion for evacuations, unless when the disorder proceeds from an obstructed perspiration, or when we are sure the fault is entirely owing to the dilatation of the pores, and then the cold bath would be of great service."

Contrast this account with that given by Flint, Loomis, and Roberts, in the latest edition of their works, and you are struck with the great advances which have been made in our knowledge of, and power over, this disease, and it is not unreasonable to suppose that, after another like period of time, we may be able to put it on the list of curable diseases. Dr. Loomis ascribes the delay at the present day to the physiologist when he says, "Until physiology can speak with more definiteness than to say that sugar is disposed of in the system 'either by oxidation, or, as seems more probable, in other ways,' it is useless to speculate as to what organ or functions are at fault."

We all need to work harder and better; but doubtless when we know with certainty all about sugar and its antecedents in the normal body, we shall be able more fully to master its death-dealing influence in the diseased body.

Two things have induced me to bring the subject of diabetes mellitus to your attention once again and arouse an interest in it: the fact that the death-rate is increasing in our city, and the further fact that the subject is of much interest to the profession of to-day, as the space given to it in our journals proves.

Dr. B. W. Richardson says it is "a disease in which there is excessive discharge of fluid from the kidneys, and in which glucose or grape sugar is produced in the body in large quantity, and to which the profuse elimination is due. It is primarily due to changes commencing in the nervous system."

Glycosuria, glucosuria, mellituria, or glycohæmia, as the disease is variously called, though care is needed to give each word its exact meaning, is a disease of no particular climate, and the seasons set no limits to its prevalence, if we except a slight increase in the colder months. In this city, during the ten years from 1880 to 1889 inclusive, the records show that 114 persons died of diabetes, an average of over ten a year. With some variations there has been a steady and rather rapid increase in the death-rate. Thus in 1880 the death-roll numbered 6; in 1888 it was 20; to be followed by a fall to 13 in 1889; and a rise to 18 up to November, 1890. The two winter months, January and December, show the highest death-rate, being 16 and 14 respectively. During the ten years no month was without its death report, the largest being in January—16; the smallest in November—3. This is scarcely what we would expect to find, as the exhaustion and the generally relaxed tone of the system seem to indicate as large, if not larger, mortality in the summer months. What is true of Baltimore is true elsewhere. Dr. B. W. Richardson says of London that there is no time or season of maximum or minimum mortality. It is to be wondered at that a disease which presents so few well marked and always-present diagnostic signs should elude thus far all our efforts to get at its cause. Age, sex, heredity, phthisis, gout, epilepsy, etc., have been assigned a place as predisposing causes, but the extent of their influence has not been determined. The exciting causes range themselves into two classes, those which affect the system generally, as wet, cold, excessive use of saccharine and starchy food, abuse of alcohol, etc., and those which primarily affect the nervous system, as mental emotions, direct injuries, organic lesions, or diseases such as epilepsy, of whose pathology we have no certain knowledge. But whether the cause be one clearly made out, or we can assign no one thing as the influential element, we know that sugar is the offending product, and if we can only find out from what source the abnormal supply comes, we will have gained a great vantage-ground. That the liver is the offending organ there seems but little room to doubt; but it is when we come to ask how, that theory and experiment must come in with their, as yet, unsatisfactory answers.

Dr. Pavy, in his address before the Berlin Congress of this year, says: "I would therefore say that we have here to deal with a failure of power—assimilative or whatever else it may be called—to arrest the passage of carbohydrates through the liver." Two opinions have and still do prevail; Dr. Pavy, in the address just noted, says: "Two points of view present themselves for consideration. We start with the fact that sugar is present in the blood to an extent that is unnatural. Is this due to sugar reaching the general circulation in a manner that it ought not? Or is it to be regarded as natural that all sugar eliminated in diabetes should reach the general circulation, the error consisting of its not undergoing subsequent destruction, thus leading to accumulation." In other words, we find two opinions still held, the one that sugar is manufactured in the liver and poured into the circulation, the other that it is not. Dr. Pavy and those who follow him

[1] Berry: Diseases of the Eye, pp. 175, 176.

[2] Read before the Clinical Society of Baltimore, Md., November 21, 1890.

believe that "instead of the liver being essentially a sugar-forming it is a sugar-assimilating organ. Its great function in relation to sugar is to prevent this principle reaching the circulation to any material extent," and all that we find in the clinical and physiological aspects of the disease can be made to conform to this idea. We have the two substances, liver dextrine and a blood ferment, kept apart by the activity of the liver-cells, and a normal blood-supply going to the organ increases these elements by feeding, or a hyperæmic condition of the circulation in and about the cells, and sugar is the result, or through their nervous supply interfere with the activity of the liver cells, so that the proper balance between the dextrine and ferment is destroyed, and sugar will result, which, when it reaches three per cent., will show itself in the urine.

We have, again, those who believe the duty of the liver to be primarily sugar-making, and the sugar thus made is gradually poured into the circulation, to be in turn broken up into alcohol and carbonic acid for heat-generating purposes, the sugar being only a necessary step in the production of heat, and is to be destroyed as rapidly as formed. Those who hold to this belief have strong grounds for their faith in that the temperature not only does not rise, but actually falls, in this disease, as low, according to Professor Flint, as 95° F.; this one element in heat production being at fault, the temperature falls. Whether a diminution in the excretion of carbonic acid is to be found also we cannot say, as we do not know of any experiments in that direction. The normal production of sugar may be increased by over-activity of the liver cells, the blood ferment may be deficient in quantity or quality, or from obstruction to the circulation; from whatever cause the blood ferment is diminished in quantity. Dr. Mahé says: "The quantity of animal heat depends upon the amount of glycogen poured into the circulation by the liver through the hepatic vein, and its perfect or imperfect consumption in the system. The quantity of glycogen produced by a healthy liver is dependent upon two things: 1, Upon the amount of blood forced through the liver; and 2, upon the degree of activity of its glycogenic-forming cells. All know that interference with certain portions of the nervous mass, the floor of the fourth ventricle, etc., by injury or otherwise, will result in the production of saccharine urine in this case as in the other. That the right pneumogastric nerve is the one involved is supported by the fact that injury to its centre produces sugar in the urine, and that diabetes, many times in its progress, shows affections of those parts supplied by this nerve or its branches, as the involvement of the lungs, stomach, intestines, the slowing of the heart's beat, and the atrophic condition of the pancreas found after death.

This and other facts have led many to look upon this as a nervous disease in its origin, and that it should be classified as such. This hasty review of what may explain for us the cause of diabetes would not be complete without a quotation from Dr. Saundby's exhaustive Bradshaw Lecture on the "Morbid Anatomy of Diabetes." His concluding remarks are: "It is very plain that diabetes, far from having no morbid anatomy, has one of a very complicated kind, and one that cannot be without bearing upon its pathology. The most important lesion is, in my opinion, the wasting of the pancreas, but it is not until this organ has been carefully examined in a larger series of cases than I have been able to collect that we shall be in a position to speak definitely as to its pathological position and value. Of great importance, too, are the changes in the abdominal sympathetic ganglia, though they are too inconstant to form the basis of a satisfactory theory. The liver changes are probably altogether secondary to a functional hyperæmia induced under nervous influence. The other changes in kidneys, lungs, heart, and brain are merely the results of defective nutrition and of long-standing hyperglycohæmia. But the morbid anatomy of diabetes is not yet completed, as is shown by our imperfect knowledge of the state of the pancreas."

Upon a review, hasty as this has been, it is evident that we cannot look upon this disease as dependent upon any single cause; several factors may be concerned in keeping sugar out of the blood, so that when in the future we desire to cure this disease we shall have to carefully see what factor or factors are at fault and treat the disease accordingly. We shall look upon the presence of sugar only as a symptom; just as now no one pretends to treat paralysis without a most thorough investigation into the many causes which give rise to this one symptom. To-day we have no treatment scientifically worth the name. Dr. Pavy says: "Observation shows that the amount of error as regards sugar in the blood, and following upon this sugar to be discharged with the urine, is in proportion to the amount of carbohydrate principles of whatever kind ingested. . . . The first consideration therefore in the treatment is to control by dietetic measures the passage of sugar through the system. The real point, however, to be aimed at, is to restore the assimilative power over the carbohydrate elements of food; and until this has been accomplished it cannot be said that a cure has been effected."

Even dieting needs great care and attention that the nutrition of the individual be kept to the highest possible degree of perfection, and a frequent examination of the urine should be made, and the patient allowed starch or sugar as rapidly and in as large amount as the system will bear—the amount of sugar in the urine being our guide.

We have followed the rule laid down by Pavy in this regard, and have always obtained the best results when a rigid system of urinary analysis has been instituted as a guide for the amount of carbohydrates our patients could be allowed. The urine is sent to us at regular times, and not when it suits the convenience of the patient. Is it too much to hope for that the hypodermic syringe shall be called upon to aid us, and absorption by the skin enable us to effect a cure? Shall this disease fall into the rapidly growing ranks of those that shall be influenced favorably by the hypodermic needle? Properly prepared fluid injected beneath the skin cures, or is said to cure, hydrophobia; the whole world to-day, lay and medical, is again roused from its apathy in regard to the cure of tuberculosis by the announcement from one whose utterances command the greatest respect and attention, that the subcutaneous injection of a newly found fluid will favorably influence, and cure, under certain limitations, all consumptives; and lastly, Professor Lépine has announced during the year that he is able to control the amount of sugar in the urine by the subcutaneous injection of a ferment. Hydrophobia, tuberculosis, and diabetes—hitherto regarded as incurable—are pushing themselves to the front, and the outlook is far from gloomy that they will succeed in ranking themselves with the curable maladies.

Concerning diabetes Dr. Lépine's views are of interest. Believing that the sugar is due to a deficiency in the blood-ferment, he injected a ferment beneath the skin in a man and a dog, and found in both that he could control to a great extent the quantity of sugar in the urine. Whether or not it could be thus made a curative agent is not shown, but it at least opens up a new field for thought and experiment. We have thus endeavored to point out the advances which have been made in our knowledge of, and power over, this disease, and to pass in review a few salient points which, yet remaining unsettled, are good material from which to unfold a discussion.

1010 Madison Avenue.

The Town well Named.—The story comes from Freedom, Ill., that the "ladies" of this town discovered an impostor in the person of "Dr." Moleskley, and on Easter day induced him to leave the place, after some forty of them had bombarded his office and treated him to a shower of back-number eggs.

Clinical Department.

SEVERE CATARRHAL LARYNIGITIS, ASPHYXIA, INTUBATION.

Recovery in an Infant Aged Ten Weeks.[1]

By CHARLES G. KERLEY, M.D.,
RESIDENT PHYSICIAN NEW YORK INFANT ASYLUM, MOUNT VERNON, N. Y.

The following case occurred in the New York Infant Asylum, and is, so far as I am able to learn, the youngest child intubated, either with fatal or successful result.

A delicate, poorly nourished male infant was taken sick during the afternoon of December 20th. My attention was called to the case at 7 P.M. The mother stated that the baby had been very restless during the afternoon, coughed quite hard, and nursed poorly. At this time the temperature was 100° F. One grain of calomel was given at once, and an expectorant mixture, containing four minims of syrup of ipecac to the drachm, was ordered to be given in teaspoonful doses every two hours. Counter-irritants were also applied to the throat and chest. No change of note occurred in the symptoms during the night. The temperature did not reach 100° F. No stridor or dyspnœa.

December 21st.—Examination of throat at 9 A.M. showed moderate pharyngeal congestion and slight swelling of the tonsils. Examination of chest showed rude breathing. Cough severe but not croupy; temperature ranging between 99° F. and 100° F. Slept well during night except when disturbed by coughing; temperature same as during day; nursed well; breathed easy.

December 22d.—Examination of the chest showed moist râles throughout; and of the throat intense pharyngeal congestion with considerable swelling of the tonsils. No croup or dyspnœa. Same treatment continued, with addition of spongio piline to throat; temperature 100.2° F. at 8 A.M. At 1 P.M. I was hastily summoned to see the patient, who was said to be choking, having been suddenly taken (no premonitory signs) with urgent dyspnœa and extreme cyanosis. There was marked sternal supra and infra clavicular recession, and when intubated ten minutes after the onset of the attack, was nearly moribund.

The smallest tube of the O'Dwyer set was easily introduced, with immediate relief of the respiratory symptoms, and for the extreme prostration, whiskey and oxygen were freely given. A steam spray of lime-water was immediately brought into use, and a tablet of antimony and ipecac, 1-100 grain, given hourly. At 3 P.M. a quantity of mucus was expelled during an attack of vomiting. The coughing paroxysms during the afternoon were frequent, and with each considerable mucus was raised.

The symptoms gradually improved under the foregoing treatment, the pulse becoming stronger, cough easier, and the child brighter. When intubated the temperature was 100.2° F., it was taken every two hours, and fell 0.6° during the afternoon. At six o'clock it was 99.6° F. At this time the baby nursed well with the tube in position, the body being held horizontally. At 7.30 P.M., during a paroxysm of coughing, the tube was expelled. As the breathing was fairly easy it was not replaced. The spray was kept up constantly during the night, and the tablets were given every two hours; the patient rested fair, nursed well, and vomited three times, the ejected material consisting largely of mucus; temperature remaining between 99° F. and 100° F.

December 23d.—Temperature at 9 A.M., 100° F. Patient breathing fairly easy; slight dyspnœa. At times relieved by vomiting. The tablets were stopped on account of too frequent vomiting; the spray, however, was continued constantly for next forty-eight hours. A mild bronchitis followed, which was easily controlled, and the patient was as well as usual in five days. The voice clear and normal in ten days.

[1] Reported by the courtesy of E. C. Wendt, M.D., Visiting Physician.

OIL OF PEPPERMINT IN THE TREATMENT OF "GRIP."

By CHARLES L. HOGEBOOM, M.D.,
CEDARHURST, L. I., N. Y.

I have had much greater success in treating grip when using full doses of oil of peppermint in addition to quinine, and full doses of bicarbonate of soda, than without it. I give from five to ten drops three times a day, and sometimes more, till the worst symptoms subside. The disease may be assumed as microbic, although the germ has not been discovered. It is probably many times smaller than the typhoid bacillus, and, in consequence, may never be found.

The history of grip indicates a germ origin. It resembles, in many characteristics, other well-known germ diseases. I believe oil of peppermint to be a grip germicide. It acts with the greatest promptness and speedily dispels the most alarming symptoms, at least as far as my experience goes. The oil of peppermint is a powerful stimulant to the nervous system, particularly the vaso-motor, promoting regularity and decreased rapidity of the pulse, and relieving local congestion. It is the most diffusive of all the essential oils. These remarks are sufficient as hints to all practitioners who may care to make a trial of the remedy.

NITRITE OF AMYL IN CHLOROFORM POISONING.

By E. MAMMEN, M.D.,
BLOOMINGTON, ILL.

I desire to add another case of chloroform poisoning treated successfully by the inhalation of nitrite of amyl. The facts are as follows: At about 7 P.M. of March 13, 1890, I received a telephone message to come hastily to M. P——, who had taken chloroform and could not be awakened. The distance was about one and a half mile, and I stopped at a drug store to procure five-drop pearls of nitrite of amyl. Time of arrival was about half an hour after being called. I found the patient in a profound stupor, respirations shallow, pulse rapid and feeble. A three ounce bottle was found in his coat pocket, half full of Squibb's chloroform. A telephone message to the druggist revealed the fact that he had purchased three ounces of the drug some two hours before. He had swallowed apparently about one and a half ounce. Air was at once freely admitted to the room and to the patient, and a pearl of the nitrite given by inhalation. The effect was immediate and apparent. After the lapse of fifteen minutes, pulse again became rapid and feeble, and another pearl was used, with the result of deepening the respirations and increasing the vigor of the pulse. The same thing was repeated at lengthening intervals eight or nine times. Meanwhile hypodermic injections of atropia were twice given, and towels wrung out of cold water dashed upon the chest. After four hours the patient awoke from his stupor, and in another hour was out of danger. Recovery was somewhat slow, owing no doubt partly to the great destruction of red blood-corpuscles, as evidenced by the extreme icteric hue of the skin, which persisted for two weeks. In my judgment this patient could not possibly have survived without the use of nitrite of amyl.

A CASE OF HEART DISEASE WITH PULMONARY ŒDEMA, RELIEVED BY OXYGEN INHALATION.

By WILLIAM T. S. WARDWELL, M.D.,
ROSLINDALE, MASS.

Dr. F. M. Johnson's article in the Medical Record of January 17th, recalls a similar case which occurred recently in my own practice. On Friday, December 26th,

I was called to see Mrs. C——, twenty-nine years of age, and weighing about one hundred and ninety pounds. She had a history of acute rheumatism at the age of ten years. I found her sitting up, with breath quite short, about 35; pulse, 110. No fever. She complained of discomfort in the cardiac region and palpitation on moving. She also had considerable lameness in her wrist joints, which were not swollen. She stated that she had had a number of previous attacks which had not necessitated the calling in of a physician. Upon auscultation I found the second aortic sound replaced by a murmur, which was transmitted a short distance toward the apex. The usual cardiac stimulants were prescribed, and I did not see her again until the 28th, when I found her bolstered up in bed, respiration, 50; pulse, 120; temperature, 100° F. The diagnosis of aortic insufficiency, with possible myocarditis, had been made, but on re-examining the patient I found the murmur had disappeared, possibly being masked by the mucous râles which were now present over both lungs.

Her condition continued about the same until December 31st, when the temperature in the morning rose to 103° F.; pulse, 130; respiration, 60. On the following day, January 1st, I called Dr. Henry J. Broughton, of Jamaica Plains, in consultation, who confirmed my diagnosis, and at his suggestion a cylinder of oxygen was procured and used intermittently, with excellent results as far as rendering the patient more comfortable. Death ensued quietly on January 8th, thirteen days after my first visit.

From my experience in the above case, I can heartily testify to the palliative effect of oxygen in cases of pulmonary œdema, and shall consider it my duty to use it when other remedies fail to relieve, even should I know that the condition of the patient is hopeless.

Progress of Medical Science.

The Characteristic Organism of Diphtheria.—An inquiry into this subject has been made by Dr. Jabez Hogg, and printed in the *Medical Press and Circular*, January 28, 1891. From French and German sources comes the news that the specialized bacillus of diphtheria has at length been grasped, and is about to take its proper place in pathology. Earlier, the medical profession have shown much unwillingness to admit a pathological difference between diphtheria and croup, diseases in reality separated by wide and distinctive differences. Diphtheria is epidemic and endemic, attacking persons of all ages, while croup proper is essentially sporadic and non-contagious, and usually met with during childhood. The nomenclature should be as different as the symptoms and pathological changes. To designate one diphtheritic membranous laryngitis, and the other simply croupous laryngitis, would be a convenience. Diphtheritic membranous laryngitis undoubtedly partakes of the fibrinous form of exudation, while the croupous membrane is for the most part corpuscular. The felt-like false membrane of diphtheria is made up of a net work of connective tissue, elastic and non-elastic fibres, in the meshes of which are entangled layers of altered epithelium cells, blood-corpuscles, fat cells, and numerous foreign bodies, conspicuous among which are starch granules or other particles of food and fungi. This membrane is undoubtedly a laminated fibroid tissue embracing superficial and deep seated structures. The opinion generally held is that micro-organisms found in connection with the diphtheritic membrane are common to, and not to be distinguished from, those found in other forms of disease, as erysipelas, pyæmia, variola, and tuberculosis.

The Dressings used at Billroth's Clinic.—1. Iodoform gauze: this is first sterilized and then soaked in the following mixture: Iodoform, 50 grains; glycerine, 100; alcohol, 400; then squeezed and dried with sterilized cloth. 2. Adhesive iodoform gauze (colophonium used in its preparation). 3. Tannin iodoform gauze. Silk: This is almost the only thing used for sutures, etc. It is disinfected as follows: Boiled in five per cent. carbolic lotion for an hour, then wrung out with disinfected hands, and boiled for another hour in five per cent. carbolic, then left for fourteen days in carbolic lotion, when it is ready to be used. Catgut: First washed with potash soap, then laid twice for twelve hours in ethylic ether, then dried and sterilized in a dry chamber by raising the temperature to 250° F., then laid in 1 to 1,000 sublimate for twenty-four hours, and finally kept for use in absolute alcohol. Instruments before laparotomy to be boiled for one hour in five per cent. carbolic lotion. Silk, catgut, and instruments during the operation placed in two and half per cent. carbolic lotion, not in five per cent. as was previously done. Needles, clamps, saws, lie always in fifteen per cent. carbolic glycerine. Hypodermic needles, and syringes kept in fifteen per cent. carbolic oil. Drains kept at least fourteen days in carbolic lotion before use and always remain therein. Sponges not used, hydrophile gauze being employed instead. Pieces are folded (10 fold), sterilized in the hot oven, and then boiled for one hour in carbolic lotion, five per cent.; then kept in carbolic or in sublimate, ten per cent., and just before the operation placed in a 1 to 3,000 sublimate solution. During the operation the wound is washed in a 1 to 3,000 —5,000 sublimate solution, which is also used for the hands, tartaric acid being added to the lotion as well as fuchsin to color it.

Relation of Stomach Disorders to Affections of the Male Genital Organs.—Professor Peyer claims to have demonstrated reflex neuroses of this kind in over three hundred cases. He points out the close, and frequently observed, connection between disease of the female generative organs and the stomach, and claims that a similar relation is to be observed in the male. The principal cause of these neuroses he finds in onanism, abusus sexualis, and coitus reservatus. The symptoms relating to the stomach are atony, gastroplegia, nervous vomiting, eructations, cramps, and the secondary disturbances of these conditions. The diagnosis is oftentimes difficult, but may be made by the presence of the products of chronic urethritis in the spermatic urine. Therapy is to be especially directed to relieving the local sexual disorders, and the condition of the nervous system.—*Volkmann's Sammlung Klinischer Vorträge.*

Typhoid and Pseudo-Typhoid Bacilli in River Water.—Dr. Cassedebat, following up Rietsch's work on the river waters of Marseilles, gives the result of an examination of seventy specimens of water, from which 250 cultivations were made, with a view of determining whether the Eberth bacillus is to be found in the waters of the Durance, which supply a part of the city where typhoid fever is endemic and often epidemic (*British Medical Journal*). In no case was he successful in finding the Eberth bacillus, but he was able to separate three bacilli —"pseudo typhoid bacilli"—which resemble the typhoid bacillus in many respects; like it, they can all withstand the action of pretty strong carbolic acid. They all present clear spaces or deeply stained masses, which might readily be taken for spores; but they and the true typhoid bacillus containing these bodies are all killed at a temperature of a little over 113° F. They stain equally badly by Gram's method. They have a lateral and oscillatory motion as well as the forward motion. The plate cultivations are so much alike that unless all four can be seen together it is difficult to distinguish one from the other. On potatoes, in broth, and in milk, they are alike, except that they develop with different degrees of rapidity and vary somewhat as regards the alkalinity and acidity of their products at the end of about thirty days, and also as to the degree and time of appearance of the turbidity produced in broth. There are differences, how-

ever, to be observed in these organisms grown in broth or milk to which small quantities of the various aniline staining reagents have been added. The ordinary cultivation methods are sufficient to distinguish these four forms from others for which the typhoid bacillus has at times been mistaken. None of the pseudo forms are quite so toxic to white mice as the true form, and one of them is quite innocuous. Although Cassedebat was not able to find the true form in water taken from the water supply which was most open to contamination, he found that this was not because bacilli could not live in water, as in distilled water, to which a cultivation had been purposely added, he could easily distinguish its presence at the end of forty four days, and when added along with half a dozen other forms he could find them at the end of seventeen days. He comes to the conclusion, therefore, that the true typhoid bacillus does not occur in water so frequently as is sometimes represented, and that one or other of the forms of pseudo-typhoid bacilli has in certain cases been mistaken for it.

The Vaso-Dilator Action of Urea.—The researches of Abeles and Munk on the effect of urea in the blood upon the renal vessels, causing them to dilate, have recently been supplemented by Drs. Cavazzani and Rebustello, who have made a series of observations in the physiological laboratory of the University of Pavia, upon the effect of urea, when circulating in the blood, on other vessels in different parts of the body (*The Lancet*). They find that a vaso-dilator action is produced similar to that observed in the renal vessels, but less marked in extent. The greatest effect is observed in the cerebral vessels, and the least in the vessels supplying the limbs, the hepatic vessels being affected to an extent intermediate between the two. Generally speaking, the effect is directly proportionate to the amount of urea in the blood; but the hepatic vessels seem to present an exception to this rule, for the dilatation in them appears to be about the same whether the percentage of urea in the blood is high or low. The greater the quantity of urea, and the more marked the action, the sooner the effects pass off. With reference to the various organs, the effects pass off first in the cerebral vessels and in the vessels supplying the limbs, next in the renal vessels, and last in the hepatic vessels. In the renal vessels the acceleration of the circulation produced by the urea is most marked when the blood pressure is low. The smallest dose of urea which will produce vaso dilator effects is not the same in different parts of the body; thus, one part per thousand of blood is necessary in most of the viscera, but in the kidneys half that amount is sufficient.

Phagocytosis and Immunity.—The fact that one attack of a contagious malady, such as small pox or scarlet fever, renders an individual immune against a second attack has never received adequate explanation. It is even more difficult to explain satisfactorily the immunity conferred on an animal by inoculating it with the attenuated virus of a disease which in its ordinary form is often, and in a few cases invariably, fatal, such, for instance, as protective inoculation for anthrax, chicken cholera, and the older method of vaccination to protect from or modify an attack of small-pox (*The British Medical Journal*). In a lecture recently delivered by Dr. Metschnikoff at the Pasteur Institute, an attempt is made to prove that the defending powers exercised by the amœboid cells of the organism are in a large measure concerned in conferring this immunity. The aggressive characters of these amœboid cells has earned for them the name of "phagocytes," and Metschnikoff points out that they are of different kinds, and originate in various ways. In connection with the subject of immunity, it is important to remember that these phagocytes can include and destroy micro-organisms; but the more malignant the micro-organism the more rarely is it found within the phagocyte, and this is especially true of such diseases as chicken cholera, hog cholera given to pigeons and rabbits, and anthrax of mice. All these diseases have the character of general acute septicæmia and cause death within twenty or thirty-six hours. According to the views expressed in this lecture, we are to believe that when the micro-organisms are attacked by the phagocytes, an animal may recover from the disease. In the maligrant forms, where the phagocytes do not intervene—that is, phagocytosis or amœbic warfare is not established—then the bacteria overrun the organism, and induce death. This partiality of the phagocytes is attributed to their sensitiveness to external influences, and especially to the chemical composition of their environment. These cells are powerfully attracted by many micro organisms, and repelled by others. This attraction and repulsion are expressed by the terms "positive chemiotaxis" and "negative chemiotaxis." Now the basis of the theory appears to be that the chemiotaxis of the phagocytes of a given animal is mutable, and that cells may be gradually attracted to substances in a mild form from which they shrink when presented to them in a concentrated form. Hence by inoculating an animal with an attenuated virus the chemiotaxis, previously negative, will acquire positive characters, and at last be induced to attack the micro-organism of a malignant disease should occasion arise. Any attempt to explain immunity from infectious diseases on a rational basis will be very welcome. The theory propounded by Metschnikoff is, like all the previous communications made by him on the subject of intracellular digestion, the outcome of patient and industrious observation, and must command our attention. His views, formulated for the first time in a consecutive manner in this lecture, promise to revolutionize opinions as to inflammation and fever, and this attempt to explain the power of the cells to confer immunity from infectious diseases is sure to be hotly contested, for every important contribution to this confessedly obscure subject must necessarily be in a large measure hypothetical.

Ferric Bromide.—Dr. Hecquet strongly recommends the perbromide of iron, or ferric bromide, in many affections in which it is desirable to soothe without depressing, and to strengthen without exciting. Out of 25 cases of spermatorrhœa treated by this drug, 19 were completely cured, 2 only being unrelieved, and in these cases complications were present in the form of prostatic enlargement and stricture of long standing. The perbromide was frequently found useful in cases of chloro-anæmia, leucorrhœa, hysteria, amenorrhœa, hydræmia of pregnancy, chorea, epilepsy, diabetes, and tuberculosis. In conjunction with Dr. Vacossin, a series of trials were made in the Abbeville Hospital on its action in cases of cardiac hypertrophy, with the result that Magendie's observations, made more than fifty years ago, were confirmed, the patients being strengthened and relieved by the calming of the palpitation and of the dyspnœa. This combination is well borne, even by irritable stomachs. It may be taken in solution, or in lozenges, the dose being from three to five grains. The action is more rapid than that of most iron compounds, as its good effects begin to manifest themselves in cases of chlorosis during the first week of administration, a complete cure being generally obtained in a month. Dr. Hecquet has found by experience that the ferric salt, Fe_2Br_6, acts both more rapidly and gives more permanent results than the ferrous salt, $FeBr_2$, and hence he has latterly confined himself to prescribing the former, which he does not hesitate to say is endowed with exceptionally valuable properties, and deserves to be far better known and more employed than it has hitherto been. There is a preparation of the ferrous salt in the Pharmacopœia of the Pharmaceutical Conference, which, however, is not very largely prescribed.—*The Lancet.*

Revue Internationale d'Electrotherapie is the name of a monthly journal edited by Georges Gautier, and devoted chiefly to gynecological electricity.

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & Co., Nos. 56 and 58 Lafayette Place.

New York, April 25, 1891.

THE WORK OF LEUCOCYTES.

A STUDY of the relation of bacteria to disease is of great interest, and sheds abundant light, not only on the nature of specific diseases, but also on that of inflammation. In "Evolution and Disease," J. Bland Sutton reviews the leading facts connected with the evolution of the inflammatory process as manifested by a complex organism. Most complex organisms are pervaded by a corpusculated fluid, which may circulate throughout the organism by traversing lacunar spaces, or by means of narrow tubular passages possessing distinct walls. This fluid serves as a living medium to all parts of an organism. The red blood-corpuscles carry oxygen, as is well known, and the white fulfil some very extraordinary functions. Should a portion of an animal die, leucocytes attack it; and if it be small, will cluster round and, by a process of intracellular digestion, devour it. If the part to be removed is large, leucocytes effect a separation between it and the living body. Not only are dead or damaged portions of tissue thus disposed of, but useless parts—such as the tails and gills of tadpoles, remains of larval organs, and the tails of ascidians—are slowly removed by the same process. Animal tissues are incapable of resisting an attack of leucocytes. An examination of the milk-teeth of children or puppies at the time they are shed, will attest the digestive powers of these cells. An ordinary magnifying-glass shows the irregular edge of the crown to be full of bays and recesses; and the microscope reveals the presence in these spaces of leucocytes, which during life were busily engaged in destroying the fang of the tooth and thus causing it to fall out. Small pieces of clean sponge introduced into animal tissues disappear in a few days; while indigestible objects—glass, needle, or fragment of metal—are surrounded by large numbers of leucocytes that are soon transformed into neutral tissue which isolates the intruders from neighboring parts. Should the intruded body contain particles of dirt offensive to these cells, their action is intensified to a degree highly disastrous, for they die in the conflict, and in a few hours the foreign substance is surrounded by a fluid—pus—containing the dead cells. When this fluid is evacuated, the cause of all the disturbance often escapes.

Leucocytes, in their behavior to foreign bodies, may be compared to bees. When the offender is small, it is quickly stung to death and cast out. When large, it is deprived of life and rendered innocuous by a covering of wax. Leucocytes also attack pathogenetic bacteria, and attempt to destroy them. This amœbic warfare may be described from attacks actually witnessed by Metschnikoff in the water-flea *Daphnia*. Spores gained an entrance into the body of the crustacean, germinated, and were dispersed by the blood over the body (in daphnia the blood circulates in lacunar spaces), and deposited where the blood moves slowest, viz., in the cephalic and hinder portions of the mantle cavity. In these places heaps of conidia collect. The leucocytes are not idle. They attack and devour the conidia, take them into their interior, and digest them. If a conidium is too much for one cell, others join it, form a giant cell, and thus struggle with the invader. Should the leucocytes overcome the spores, the daphnia lives. If not, the conidia overrun the crustacean and death is the result.

Similar processes in animals more highly organized take place, the defending power of leucocytes being well illustrated in avian tuberculosis. Tuberculosis is unfortunately widespread in man; but in birds, especially those that live on grain, it is more common than in human beings The liver and intestines of birds that have met their death from this cause, present numerous pale-yellow, rounded nodules, the centres of the larger ones containing pus. The smaller ones are homogeneous, containing in the centre small circular cells with larger ones—giant-cells—lodged among them; outside these a layer of smaller cells; and, lastly, a layer of fibrous tissue. The microscope reveals minute bacilli clustered in the centre of the mass and occupying the interior of the cells, especially the giant-cells. In nodules of moderate size, caseous material surrounded by a zone of cells containing bacilli, occupies the centre. Adjacent nodules may coalesce and thus produce large masses. Blood-vessels connected with the nodules frequently present clusters of bacilli in their interior. The author (Sutton) is convinced that these bacilli, from whatever source arising, are introduced into the alimentary canal and find their way into the walls of the intestine. Here they are attacked by the leucocytes, which surround, ingest, and destroy them. The bacilli may be too numerous for the leucocytes, and the point where they gain entrance into the tissues be transformed into a battle-field. Large numbers of other leucocytes quickly reinforce their comrades. Many of these die, others fuse and form giant-cells. The dead leucocytes form pus cells and give rise to the caseous centre in the nodules. From these nodules the bacilli are conveyed by blood-vessels, or are even carried away by the leucocytes—a giant-cell sometimes containing fifty bacilli—and initiate new struggles in distant parts. When bodily conditions are favorable, bacilli multiply very rapidly and overrun the whole system, nodules arising in the liver, lungs, brain, and skin. Function is interfered with and death results. In addition to local troubles, bacteria produce general disturbances, one of the most important being fever.

The behavior of leucocytes to pathogenic bacteria constitutes the essence of the inflammatory process. This is essentially a local struggle between irritants and the white cells of the blood. When the whole of the blood is engaged in the struggle—as in ague, pyæmia, anthrax—we have general inflammation or fever. The different varieties of fever depend on the habits of the bacteria, some

being virulent or irritating to the tissues, and others slow in attaining maturity. Inflammation takes place in plants; for example, the galls on leaves due to the deposition of eggs in their interstices by insects. Each insect produces in this way a different kind of gall. One leaf may thus present at the same time several varieties of inflammation. It simplifies our notions of morbid processes to find that the phenomena known as the repair of wounds, inflammation, and fever, are manifestations of the same process by which a child loses its milk-teeth, the tadpole its tail, or the stag its antlers, rather than to look upon such conditions as the result of some special law.

NEURASTHENIC STIGMATA.

Recent issues of the *Union Médicale* contain a *résumé* of Dr. Bouveret's lectures on neurasthenia. While the symptoms of this interesting disease are extremely varied and numerous, according to Dr. Bouveret's view there are certain distinct manifestations which are sufficiently constant to be called the stigmata of neurasthenia. These are headache, insomnia, muscular weakness, vertebral pain, atonic gastro intestinal dyspepsia, to which are frequently added habitual dilatation of the pupil owing to feeble reaction to light, together with discoloration and objective and subjective coldness of the hands and feet.

While the headache is more or less persistent, the pain is not particularly severe, the sensation being more that of heaviness, fulness, and constriction, as of a hand or cap pressing upon the scalp, giving rise to what Charcot calls the helmet symptom. In event of intense headache, which sometimes exists, it is circumscribed, may be limited to the forehead, one temple or both, to the occiput, or the back of the neck. Aching and weariness in the neck are common, and in themselves are rather good signs of neurasthenia. The neurasthenic headache is increased by work, intellectual effort, noise, and sudden emotion. During these exacerbations vertigo is not infrequent. True migraine may complicate this cephalal gia and render the condition doubly trying. Insomnia is of the persistent order, and is rebellious to treatment. It may be absent in women. In certain rare cases, irrespective of sex, the fatigue of work is followed by attacks of irresistible somnolence. Dreams are common, and more or less distressing. Sleep may come only toward morning, or it may visit the patient early in the night, leaving him to the horrors of wakeful visions after an hour or two. In either case the sufferer rises unrefreshed, in a condition of extreme weariness, without energy and without hope, and as thoroughly sapped as if he had been up all night.

Mental depression in neurasthenia expresses itself as exhaustion of all the mental faculties. There is loss of memory, of judgment, of will, inability to fix the attention for any length of time, and to resist sufficiently the influence of psychic impressions. Impairment of will is the keynote to the psychic state in neurasthenia. It is impossible for the patient to pursue the even tenor of his way. The character changes. The thousand and one petty annoyances of daily life are converted into so many excuses for irritability, anger, and exhibitions of bad temper. General weakness exists, and a notable diminution in muscular force is usually present. After slight emotion, moderate physical fatigue, sometimes without assignable cause, there will come a sudden feeling of profound prostration and complete loss of strength, together with painful fatigue in the calves, knees, and thighs. Vertebral pain is almost as common as headache. It is a sensation of heat, burning, lassitude, and strain along the spine. This has favorite points of location: the seventh cervical vertebra, the lumbar vertebræ, and the sacral region. It may exist in the coccyx alone.

There are two forms of neurasthenic gastro-intestinal atony. In the first, only functional disturbances appear. In the second, the patient emaciates, loses strength, and objective symptoms are present. Abdominal examination reveals prolapse and dilatation of the stomach, flabbiness of the anterior abdominal parietes, together with descent of the kidneys and liver in certain instances, completing the anatomical complexus that Glenard has described under the title of enteroptosis. There are cases, not so rare either, where after the earliest developments of neurasthenia, the patient passes progressively and rapidly from functional gastro-intestinal atony to enteroptosis of serious moment.

A chemical hypothesis to account for neurasthenic phenomena has recently been proposed by Professor Kowaleski, of Charkow, of which mention appears in the *American Journal of Insanity*, January, 1891. Acquired neurasthenia may be divided into two principal varieties: one where there is excessive mental strain or exertion without sufficient nourishment. The brain is starved with the rest of the body, and naturally fails to perform its functions. The other form of the disease is found in those who lead lives of intense mental activity within a narrow field, and who have but little physical exercise. The tendency of modern civilization to specialism leads to the restricting of mental activity to a limited range of topics, tending to local exhaustion of the brain. This exhaustion may come about in spite of an abundant supply of food. In consequence of the sedentary lives led by persons engaged in intellectual pursuits, food may aggravate the evil, poisoning the brain by imperfectly assimilated material. Alcohol, tobacco, tea, and coffee taken to stimulate flagging energies, together with late hours to make good the losses of the day, serve to render bad matters worse. The congenital form of neurasthenia, when not connected with anatomical anomalies of the nervous system that can be demonstrated, must be considered due to defect of organization that conjecture may reasonably ascribe to its abnormal chemical constitution. In view of the frequent appearance of neurasthenia and allied disorders among children of drunkards, it seems probable that poisoning of the nervous system of the parent may result in defective chemical composition of the nerve-elements in the offspring, this being latter-day retribution following the eating of sour grapes by modern fathers.

ARSENIC IN WALL PAPERS AND CLOTHING.

Arsenic seems to be the bugaboo of the Massachusetts physician. Not long ago the Board of Health of that State made an elaborate report upon the subject of arsenical wall-papers and showed how fatal they were to hu-

man health and happiness. More recently a Dr. Talbot has been making some portentous statements regarding the same poison. This is the gloomy and green-eyed way in which the gentleman looks at the subject :

"We sleep in bedrooms the walls of which are hung with paper filled with arsenic. Our most beautiful draperies are equally loaded with this poison. We sit upon sofas that every time they are compressed throw into the atmosphere this same poison. We wear clothing containing enough arsenic, if taken into the stomach, to produce a speedy death. Our little children are wrapped in beautiful shawls containing this same death-dealing drug. Their playthings are rendered more beautiful and attractive by this very poison. The papers in which their bon bons and candies are enveloped are colored with arsenical preparations. I saw to-day at the Board of Health a wrapper of checkerberry lozenges containing two grains of arsenic. Even the utensils in which our food is cooked are sometimes lined with this poison."

Now all this sounds very alarming, but is there not in it a good deal of what may be called sensational sanitation ?

Arsenic is prescribed a great deal to children and adults. It can be given in small doses for a long time with only beneficial effect. It is said to increase the appetite, promote nutrition, clear the skin, and cure chlorosis. It is given systematically as a prophylactic in malarious countries.

If there is arsenic in wall-paper most of it stays there. It does not volatilize and can only reach the air in the form of a dust.

It is a curious fact that workers in arsenical colors, according to Dr. Tracy, rarely suffer from general symptoms of arsenical poisoning, the troubles in this class being mostly those of ulcerations and cutaneous eruptions. When general symptoms do appear they differ in a good many ways from those of so-called chronic arsenical poisoning.

Arsenic is poisonous and dangerous when employed in coloring clothing, artificial flowers, or toys; but the periodical alarms over arsenical wall-papers are usually based on the fear-stricken imagination of some ecstatic sanitarian who has found arsenic in a piece of paper which lay in the house of a person who was ill.

We may add that the following simple test for the presence of arsenic is given by Professor Calder, of Brown College, and may prove of practical service to our readers.

If hydrochloric acid, a piece of copper wire, and a bit of wall paper containing arsenic be placed in a glass tube, and the glass be gently heated, the wire will be blackened.

A FLOW OF CHYLE FROM SKIN AND KIDNEYS.

From time to time cases are reported in the medical journals in which a milky fluid has flowed from incisions into the living body, or has escaped from various portions of the surface through natural or newly formed passages, or has been found post mortem in the cavities of the cadaver. The only natural fluid of the body (with the exception of the mammary secretion, which is not under discussion) to which this milky fluid can correspond is the chyle ; and, indeed, repeated examinations have proven that the fluid in question is in every respect identical with the chyle. The determination of the manner in which the chyle escapes from its natural channels, and of the causes which lead to its escape, has brought to light some very interesting facts, although at certain points and in particular cases the process is still shrouded in obscurity.

Normally, the chyle is confined in the lacteals, which absorb it from the intestinal walls and pour it into the receptaculum chyli, and to the thoracic duct, which conveys it from the receptaculum chyli upward to the junction of the left internal jugular and left subclavian veins, where it is mingled with the blood-stream. It is easy, therefore, to understand how, in consequence of rupture of the thoracic duct or lacteals from any cause, as direct injury, disease of the vessel-walls, or even obstruction which caused undue fulness of the vessels, the chyme might escape into the tissues or cavities of the thorax and abdomen.

The puzzle is to show how it can make its way into the tissues of the lower limbs and into the excretory ducts of the kidneys. The escape of chyle from the surface of the lower limbs has been observed in only a few cases. In Da Costa's "Medical Diagnosis" reference is made to a case, reported by Dr. Day in the *Transactions of the London Clinical Society*, vol. 2, 1869, in which there was enlargement of the leg, distention of the subcutaneous lymphatics near the groin, and a formation of vesicles which were connected together by ridge-like elevations and from time to time discharged a chylous fluid. Chyluria is a frequent complaint in certain tropical countries, and numerous cases have recently been observed in South Carolina.

A case related by Dr. Myers, of Indiana (*British Medical Journal*, September 13, 1890), is especially remarkable, since it presented, first, a discharge of chyle from the leg, and afterward, when this ceased, chyluria.

The patient, a woman of Scotch descent, was healthy until her eleventh year, when she suffered from a pain on the outer side of the left thigh, for which, under the title of sciatica, she was treated off and on for five years. She then came under care of another doctor, who put a seton into the upper portion of the left thigh. During this operation a quantity of milky fluid escaped from the wound. The left lower limb was at this time larger than the right, especially after exercise. Twenty or more small prominences of a vesicular character appeared upon the inner and outer aspects of the upper portion of the left thigh and from them a daily discharge of milky fluid occurred. The fluid, which ran more freely after dancing or long walks and amounted sometimes to ten or twelve ounces a day, was upon chemical analysis shown to be chyle. After the more profuse discharges, the patient suffered from languor and anorexia and would be confined to bed for several days.

Recently, after an illness lasting several months, a sudden and permanent cessation of the flow from the thigh had been observed, and in its place chyluria appeared. The chylous urine had been passed daily ever since in large quantities, the urethra being often blocked by coagula formed in the bladder. The urine would, on standing in a vessel, become semi-solid from coagulation. On examination, it was slightly pinkish from the presence of

blood, and cloudy from the presence of large quantities of chyle. Its transparency returned when it was shaken with ether. It contained no casts. Repeated examination failed to show the presence of Filaria Sanguinis Hominis. The periods when the flow was greatest were marked by chill, low temperature, pain in the back, mental depression and extreme restlessness, followed by quickened pulse and increased temperature. Dr. Myers doubts the renal origin of the discharge, but thinks it due to a fistulous opening of the delicate lymphatics and lacteals in the lumbar region, high up, near or at the thoracic duct.

In the opinion of the present writer his theory is obscure and unlikely. The true explanation seems to be somewhat as follows:

The receptaculum chyli receives not only the chyle-bearing lacteals from the intestines but also the lymphatic vessels from the lower limbs and likewise from the kidneys. It is comparatively easy to see how, in case the thoracic duct were obstructed in any part, the mixture of lymph and chyle in the receptaculum chyli might be dammed back into the lacteals of the lower limbs or kidneys, overcoming the resistance of their delicate valves and escaping either by fistulous channels through the skin or by the excretory ducts of the kidneys. It may be that there is some inherited or acquired weakness of the walls of the lymphatic vessels or insufficiency of their valves in the affected parts of the body, which permits a reflux of the contents of the receptaculum chyli whenever the blood-pressure is increased in the venous trunks into which the thoracic duct empties. Chylous congestion of the lymphatics of the muscles and of the kidneys has followed ligature of the thoracic duct in aged dogs, and dilatation of certain of the vessels which empty into the receptaculum chyli has been known to result from venous congestion in certain cases of heart disease.

In any case of flow of chyle from the lymphatics (not lacteals) of the lower part of the trunk or of the abdominal organs the following points are to be considered in seeking a diagnosis:

1st. Are the lymph channels blocked or their walls enfeebled by Filaria Sanguinis Hominis?

2d. Is any tumor pressing upon the thoracic duct?

3d. Is there any disease of the walls of the thoracic duct?

4th. Is there any increase of venous blood-pressure which hinders the outflow of chyle from the mouth of the thoracic duct?

5th. In the absence of the preceding causes, is there an inherited or acquired weakness of the walls or valves of the lymph-vessels which drain the part from which the chyle escapes?

The treatment varies with the diagnosis and cannot be considered in this article.

VENESECTION AGAIN.

Venesection tries very hard to get upon its feet again. Every now and then we come across an article or a discussion in which this ancient therapeutical stand-by is petted and praised and coddled; but after this comes silence again. The pride and staff of our forefathers seems to remain in hopeless senility. Phlebotomy does not get popular. Medical fashions, we are told, run their course, and after a time reappear. Calomel has been taken up again, and perhaps as many people take mercury now as ever, though in more modest doses. But the modern doctor still will not bleed.

At a recent meeting of the Royal Medical and Chirurgical Society, Dr. Pye-Smith told us again how useful venesection is. He reports fifty cases! Half a century ago every country doctor could report as many in a year. Dr. Smith thought venesection indicated in cyanosis with distention of the right side of the heart, whether from pulmonary or from some other obstruction to the circulation; in the intense pain of thoracic aneurism; and in uræmic and prolonged epileptic convulsions.

Dr. Stephen Mackenzie and Dr. Broadbent confirmed the views of Dr. Smith. With such authorities, perhaps, there will be a little more phlebotomy, at least in our hospitals. But its use in private practice will be limited for a long time to come.

THE LAW AND THE INSANE.

The so-called Stephani case has very naturally excited a good deal of interest and discussion in this city of late. Last July a young man named Stephani shot and killed a prominent lawyer in his office. Stephani was arrested, his counsel put in a plea of insanity, and he was examined as to his mental condition by a commission appointed by the district attorney. This commission called a number of experts, who all testified to Stephani's insanity, and a report to this effect was made; the findings were set aside, however, and a new commission appointed, which also called experts, and these again testified to the insanity of the accused. Nevertheless the commission reported him as sane, and Stephani was tried recently before a jury, which pronounced him guilty of murder. The extraordinary and interesting feature of the case is the rare and delightful unanimity of the medical experts as to the man's insanity. Eight or nine of the leading alienists and medical experts of this city examined him, and all pronounced him insane. It was shown to the jury that he had had an insane brother, that he had had epileptic fits, had had delusions of persecution, and had been considered irrational for several years by prominent physicians attending the family. The whole burden of medical and expert evidence was overwhelmingly in favor of the insanity of the man. Yet the jury promptly decided him to be sane, and the only question raised was whether he should be hung or be declared a murderer in the second degree.

Some vigorous protests have naturally been made against a decision so grossly antagonistic to facts and evidence. But it is a decision quite in accordance with others. The average juryman thinks he knows rather more about insanity than men who spend their lives in studying it, and many judges are inclined to encourage such views. This has resulted in part from the laxity exercised in selecting experts, or in admitting as experts persons who have no claim to such title. In part it is the natural outcome of the legal view taken of insanity, according to which some insane men are responsible, and some sane men irresponsible, depending upon the eloquence of the lawyer, the bias of the judge, and the attitude of the jury.

STRONGER STIMULANTS.

Every physician is confronted frequently with cases of profound collapse, or dangerous weakness. The patient may be suffering from surgical shock, or severe hemorrhage, or a great physical injury, or may be in the critical stage of a pneumonia, or infectious fever, or there is a sudden giving out of a damaged heart. What can be done in these cases? This query is raised by Dr. W. H. Burr, of Wilmington, Del., in the *Medical and Surgical Reporter*.

A good example to work on, he says, is the case of a patient exhausted by previous disease, who is compelled to undergo a serious operative procedure as an only chance to save life. We have here three elements to combat. Exhaustion from previous disease, shock from operative procedure, and anæsthetic influence. What drugs, if any, either by stomach, rectum, or hypodermically, are most efficient to help tide the patient over the emergency? One author says alcohol finishes those who escape the anæsthetic effect; another prominent author uses alcohol very freely, and proves his theory by an experience covering thousands of cases. One author recommends hypodermic injections of ammonia, and another digitalis.

Another good example is the heart failure in pneumonia. Here a prevalent practice is to give digitalis; yet one or two high authorities strictly condemn its use.

The list of stimulants recommended in various asthenic conditions is a very long one. It includes alcohol, digitalis, ether, ammonia, camphor, nitro-glycerine, strychnia, musk, oxygen gas, bleeding, cups, electricity, hot applications, artificial respiration, etc. Yet how often it is that all those remedies not only fail, but seem to make no impression. The patient gets an ounce of whiskey every hour, ten drops of digitalis every three hours, or perhaps nitro-glycerine every fifteen minutes, oxygen gas is administered perhaps continuously, and still there is no response, but the vital forces sink steadily. When this happens, the doctor shakes his head and says it is of no use, the patient must die. And he is right, the patient does die; yet often it seems as though our art ought not to be so futile. Thus, in cases of pneumonia collapse comes on when the patient was apparently doing fairly well, and if life could be prolonged twenty-four hours the disease would perhaps take a favorable course.

Here is a problem, then, for therapeutists to work out. Can there not be devised or discovered more powerful stimulants than we now possess? Are alcohol and ammonia our last resorts? We believe not. He who discovers something twice as potent will do as great a service to mankind as Jenner, and with all due respect to "tuberculin," a much greater service than Koch.

THE GERMICIDAL POWER OF THE BLOOD.

The blood is known to have germicidal properties, and these properties have recently been studied by Von Fodor, who reaches some interesting conclusions. He finds that increased alkalescence of the blood raises its germicidal power very much. The drugs which do this most effectively are the carbonates of sodium and of potassium. By the alkalinization of the blood of rabbits he made a large per cent. of them refractory to anthrax. Hydrochloric acid had no effect on the germ-destroying power of the blood, while quinine actually lessened it.

These observations are of interest in connection with the observations of Bordas, who asserts that he has discovered the specific microbe of acute rheumatism, it being, he thinks, an organism allied to the micrococcus pyogenes.

On the other hand, the statement that quinine lessens the germicidal power of the blood is absolutely untrue, as regards the plasmodium of Laveran at least. We are accustomed to think also that hydrochloric acid is a good drug to take in order to prevent the infection of cholera and other germs which get in by way of the stomach. Von Fodor's observations, therefore, cannot have a general application.

He states that temperatures up to 39° C. or 40° C. also increase the fighting power of the blood against pathogenic organisms.

ASTHMA A NEUROSIS.

In these days, when it is the vogue to attribute to the nose all lesions of the respiratory apparatus below it, and when asthmatics in particular rarely escape without applications of saw and cautery, it is worth while to call attention to the observations collected by Professor Brissaud in the *Revue de Médicine* for December, 1890. This gentleman shows that a large portion, if not all, victims of essential asthma are neurotic, and that a nervous irritability is at the base of their trouble. The facts of heredity, the history of alternations of asthma with other neuroses, such as hysteria, neuralgia, insanity, etc., are brought in to support Brissaud's views.

There is nothing particularly novel in this, but overmuch force has often been placed upon diathetic and reflux influences, and the neurotic theory is probably nearer the true one for the majority of cases.

The rational cure of asthma must be based on attempts to relieve the neuropathic taint. For the palliation of the symptoms, however, and the lessening of attacks, we must still rely in most cases upon climate, diathetic remedies, and in some instances upon treatment of nasal or other local disorders.

News of the Week.

One of our Practical Country Practitioners from one of the upper counties in this State was recently on a visit to New York, and, among the other wonders of Gotham, took in one of the gynecological clinics. It was one of the professor's field days, and, at the conclusion of a brilliant clinic, he asked Dr. F. "what he thought of medical matters in the metropolis." Dr. F. replied: "Well, I would rather be a moonshiner down in Tennessee than a uterus up here in the hands of you New York doctors."—*Southern Practitioner*.

A City where Doctors are Appreciated.—A Philadelphia physician has just received a legacy of $10,000 from one of his patients.

"The Pink Eye" is prevailing among the horses of Philadelphia.

New Medical Law of Alabama.—The *Alabama Medical and Surgical Age*, February, 1891, says that the "Penalty Bill," which recently passed the Legislature, gives Alabama a model medical law, and places the State Medical Association on a safe and sound basis. The penalty bill, as it passed the Legislature, provides that any person practicising medicine or surgery in that State, without having first obtained a certificate of qualification from one of the authorized Boards of Medical Examiners of the State, shall be guilty of a misdemeanor, and on conviction thereof, shall be fined not less than twenty-five dollars nor more than one hundred.

Summer School of Medicine, University of Virginia.—Several of the teachers and professors of the Medical Department of the University of Virginia have organized, for the coming summer, a private school of medicine, intended as preparatory instruction for those who propose to begin the study of medicine, and for those who are seeking proficiency, especially in the essential groundwork studies of anatomy, histology, chemistry, and physiology.

A Good Suggestion.—"One who hath suffered" gives a hint in the London *Times* which should be remembered by those who have the training of nurses. It is that nurses should be taught that harm is often done when they are attending ladies by telling them dreadful stories of their former patients. It is, however, rather too much to hope that nurses will allow themselves to be deprived of this, the most delightful part of their vocation.—*Hospital Gazette.*

Dartmouth Medical College.—The annual catalogue of this college for 1891, announces that hereafter four years of medical study and three full courses of lectures will be required of candidates for graduation.

Discontent at the Faculty of Medicine at Paris.—Discontent respecting the management of the Faculty at Paris has become so general and so emphatic, that steps have been taken to establish a rival to it, and the Paris Municipal Council has commenced organizing. The medical teaching in Paris has, for many years, been divided into two parts, the professors' lectures, and the Fellows' (agrégés) complementary courses. These latter are the most practical and most popular method of instruction, but, in the interest of the professors, who possess all the official influence, they are neglected and tabooed, and the means of teaching are withheld from them.

Virchow Street.—The German Emperor has ordered that the street at the back of the Friedrichshain Hospital in Berlin shall in future bear the name of Professor Virchow, to whose untiring exertions the hospital in large measure owes its existence.

The German Surgical Congress.—The twentieth annual meeting of the Congress of the German Surgical Society commenced in Berlin on April 1st. The subject of Dr. Koch's treatment for tuberculosis was introduced by Professor von Bergmann, who dealt especially with the effect of tuberculin on local tuberculous affections. The method, he said, was in its infancy, though it opened up a new path the ends of which were as yet veiled even from the prophetic eye of science. He insisted that the utmost care should be taken in the administration of the remedy. Professor König, of Göttingen, spoke favorably of the value of the remedy, though he feared that years might elapse before the best method of using it was thoroughly understood. He also insisted upon the necessity of the most extreme care in its applications.

Good News for the Children.—Owing to the increasing and constant warfare by the National Confectioners' Association, there has been a very marked decline in the number of instances of untoward effects from candy eating.

Medical Legislation in California.—The California Legislature has enacted a law establishing a State Hospital for Inebriates and providing for the legal commitment of this class of persons under much the same conditions as those of the commitment of lunatics. Another good law is one which defines the phrases "incompetent," "mentally incompetent," and "incapable," as meaning any person who, though not insane, is, by reason of old age, disease, weakness of mind, or from any other cause, unable, unassisted, to properly manage and take care of himself or his property, and by reason thereof would be likely to be deceived or imposed upon by artful or designing persons.

Physicians and Life Insurance.—In November, 1888, Dr. George Bernays, of St. Louis, cut his finger while performing a surgical operation. Erysipelas set in, and he died within thirty days. Mrs. Bernays demanded of the United States Mutual Accident Association the sum for which the doctor was insured, claiming that his death was the result of accident. The company admit the cutting, but deny that he was seized with erysipelas then, claiming that he had had the disease nearly all his life. They claim further that as "there was no visible mark on his hand at the time of his death," there is no liability upon them to pay the insurance by reason of a stipulation in the contract or policy. The rulings of the court and the final decree in this case will be of interest to physicians throughout the country, and will have a material effect upon the readiness of physicians to take accident insurance policies.—*Medical News.*

The Ordinary Obstetric Fee in the interior of China, according to a writer in the *Medical Missionary Journal*, is, among the better classes, two dollars when the child proves to be a boy, one dollar for a girl. Among the poorer, one dollar for a boy and fifty cents for a girl.

A New Hospital for the Turks.—One of the largest hospitals in the world, containing accommodations for from 1,000 to 1,500 patients, has been opened at Constantinople, Turkey.

The Canada Lancet thinks that the character of the profession needs to be improved. The immediate cause of this depressive feeling is the startling press notice of a Canadian physician to the effect that "through the personal influence of Lord Stanley, Sir Charles Tupper, Sir John A. Macdonald, The Dominion Government, Lord Salisbury and the Lord High Chancellor of England he has secured a supply of Koch's lymph for use in his '*own*' private practice."

Busy but Constipated.—There is a busy quack in Paris, who, according to the *St. Louis Medical and Surgical Journal*, has hardly time for eating or sleeping, and none whatever for the remainder of human functions, on account of the throng of patients.

The Death of Dr. Joseph H. Warren, of Boston, took place on March 25th. The deceased, who was sixty-five years of age, had devoted much attention to gynecology and to the operative treatment of hernia.

Creasote and Compressed Air.—According to a cablegram medical circles in Paris are greatly interested in a so-called new system of treating tuberculous diseases. According to this method, devised by Professor Germain Sée, patients suffering from tuberculosis pass four or five hours daily in a close chamber, wherein the air is above normal pressure and is saturated with creosote and eucalyptol. The pressure is gradually increased until it reaches a maximum of an atmosphere and a half. Several excellent and permanent results, it is announced, have been obtained.

Suicide of a Physician.—Dr. Arthur Vokes, a physician of Chicago, committed suicide, April 14th, with morphine. His ambition had been to discover a specific for Bright's disease, and after years of unremitting investigation he believed he had succeeded. Within the past few days, however, he was undeceived, and the disappointment appears to have been more than he could bear.

Dr. George Evertson Moore, a physician of this city, died April 15th at his residence, from influenza followed by pericarditis. Dr. Moore was born in 1851 in Ulster County. He graduated with high honors from the College of Physicians and Surgeons in 1878. He at once entered Chambers Street Hospital. After serving there, Dr. Moore went to Europe to pursue his studies, and on his return to this city he started in practice. He became connected with the New York Dispensary as a visiting physician.

A White Flag Over Hospitals.—Dr. Henry C. Cooper suggests that a high flagstaff and a white flag should be attached to all sea-port hospitals and that the flag should be kept floating in times of war.

The French Surgical Congress held its fifth annual session in Paris beginning March 30th, and devoted the most of its early sessions to the surgery of the nervous system. Mr. Boyce, of London, presented the results of English work, and several French surgeons showed that they were not behind in this special branch. A partially successful case of trephining for Jacksonian epilepsy was related (*British Medical Journal*) by Dr. Jeannel, of Toulouse. One case of compression by effusion of blood and one of traumatic epilepsy were mentioned by Dr. Duret, of Lille; trephining had been successful in both, but in the former case the patient was seized with acute cerebral congestion on the twenty-third day, after a drinking bout, and died with convulsions of all his limbs. Dr. Girard, of Grenoble, related a case in which an epileptic woman shot herself in the right temple with a revolver; trephining was performed, the bullet and some chips of bone were removed and the skin wound stitched up, no drainage tube being left in; healing was complete on the seventh day, and for five months the great epileptic crises have ceased, attacks of vertigo have become rare, and consciousness has been lost only once. Menstruation, which formerly was almost constant, is now regular. In fact, the operation which was undertaken for the injury seems to have cured the epilepsy. Dr. Reynier, of Paris, brought forward the case of a girl, aged ten, who was the subject of a cystic tumor situated at the lower extremity of the pre-Rolandic sulcus and extending into the gray matter. M. Charcot having diagnosed "partial sensori-motor epilepsy corresponding to a probable lesion of the middle and lower parts of the Rolandic convolutions," trephining was performed on August 19, 1890, but it was found impossible to remove the whole tumor. A second attempt on December 15th was more successful, and the child is now practically cured, no epileptiform attacks having occurred since December 22d. A case in which a serous cyst of the brain was successfully removed was related by Dr. E. Doyen, of Reims, and another in which a cerebral abscess following a gunshot wound was cured by operation was communicated by Dr. Picqué, of Paris. Dr. A. Broca discussed the general indications for trephining, excluding the immediate effects of injury. Dr. P. Michaux, of Paris, related a case of non-traumatic meningeal hæmorrhage, due to alcoholism or uræmia, which he cured by trephining. M. Lannelongue presented a communication on craniectomy in microcephalus in backward children, and in young subjects presenting various symptoms of cerebral disorder, with or without epileptic crises, based on twenty-five cases, of which twenty-four were "operative-cures;" there was one death from acute septicæmia. As to the definitive results, in a very large proportion of the cases there was improvement both in the intellectual power and in power of walking.

Obituary.

JAMES KINGSLEY THACHER, M.D.,

NEW HAVEN, CONN.

Dr. James Kingsley Thacher, Professor of Physiology at Yale Medical School, died April 20th, of pneumonia, after an illness of two days. Dr. Thacher was born in New Haven, Conn., in 1847. He was a son of the late Professor Thomas A. Thacher, and grandson of President Day of Yale College. He was graduated at Yale in 1868. He became a tutor at Yale in 1871, and at the same time pursued original investigations in comparative anatomy and physiology. The results of these studie were first published in the Transactions of the Connecti cut Academy for 1877, and commanded immediate attention throughout Europe. He maintained that the limbs of higher vertebrates were developed from the fins of fishes. Dr. Thacher was graduated at the Yale Medical School in 1879, and was appointed professor of physiology immediately afterward. He commenced the practice of medicine in 1880, and of late years had charge of the department of clinical medicine at Yale. His services to the hospital have been of the greatest value, and he maintained a position in all respects in the front rank of the medical profession. He had been an active member of the Association of American Physicians ever since it was organized. His investigations in electro-therapeutics in 1885 and in heart action and pulse-wave transmission in 1888 are of the highest merit. He had charge of the medical work in connection with the Century Dictionary in 1878.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, April 2, 1891.

ALFRED L. LOOMIS, M.D., PRESIDENT, IN THE CHAIR.

A Manure Nuisance.—DR. H. D. CHAPIN, Chairman of the Section on Public Health and Hygiene, said that attention had been called at this Section to a nuisance at the foot of East Forty-sixth Street, in the form of a manure heap, and those who had charge of the transportation of manure from the city were seeking permission from the Board of Health to unbale the manure, separating it from the straw when placed upon the barge in the river. The Section had disapproved of this, as it would in part nullify the benefit derived from placing the manure in bales instead of in open carts as heretofore.

DR. H. E. CRAMPTON offered a resolution to the effect that this action would be deemed by the Academy as injurious to the public health, and that a committee be appointed to urge upon the Board of Health the importance of carrying out the provisions of the law regarding unbaling of manure within the city limits.

DR. HEINEMANN and DR. R. W. TAYLOR opposed the motion, on the ground that the Academy would lose prestige with the public if it were to be constantly passing resolutions concerning individual cases of this kind. The same point was raised later in the evening.

An amendment was passed referring the matter to the Standing Advisory Committee to the Board of Health.

Lupus, with Report of Results Obtained in the Treatment of Lupus by Inoculations with Koch's Tuberculin.—DR. H. G. PIFFARD read the paper. In the first part he reviewed the subject of lupus from an historical standpoint, stating that this was all the more necessary because the name had not always been limited to the same clinical features. The author had taught for fifteen years a common basis for lupus and phthisis. He had gone further in 1877, and stated that lupus was infectious. The doctrine had come to be pretty well accepted that certain cutaneous affections were produced by infection of tubercular material, and were classed under the head tuberculidæ. They included lupus erythematosis, lupus vulgaris, lupus exedens. The latter was generally supposed to belong to epithelioma, but he did not agree with this view, although he believed that there was a closer connection between lupus and epithelioma than was generally supposed. It would be seen that his views of the infectious nature of lupus antedated the discovery of the tubercle bacillus in these cases.

Speaking of treatment, he first described the methods in vogue the past twenty-five years, and concluded by giving the results of the injection method proposed by Koch. Aside from this, the treatment had consisted of some surgical and some local destructive measure, as the use of caustics, cautery, curette, knife. It had been found that, to be efficient, it was necessary to destroy every particle of the disease, every cell which might be capable of reproducing the affection. This fact had been known to clinical observers before they were made acquainted with the bacillus tuberculosis which had since been found in the diseased tissue. Of course the first radical way to suggest itself to the surgeon was excision. This was, however, the best method in only a few cases. The incision should extend at least a quarter of an inch into the surrounding healthy skin in order to avoid a relapse. This precaution was even more important in lupus than in epithelioma, since the former disease branched out more deceptively than the latter.

The actual cautery applied superficially was not to be recommended. Potential cauteries, such as Vienna paste, were reasonably effective, but were painful and liable to do harm. It was true that arsenic seemed to have an affiliation for the diseased tissue, but it did not spread out sufficiently, and was likely to leave diseased cells to favor relapse. Besides, it was exceedingly painful. The simple use of the scoop, or Volkmann's operation, was also objectionable, as not being sufficiently thorough.

The author recommended, about fifteen years ago, a combined operation by the scoop and cautery. The only change which he had to suggest in this mode of treatment was the use of the platinum cautery at a red heat instead of a white heat. During the past year he had been trying scarification and cross scarification by the cautery, making scars in surrounding healthy skin as close together as possible. Further experience would be required to decide whether this method was superior to the use of the scoop and actual cautery alone. The dental burr was of advantage in going down into crypts.

Regarding treatment by injections of tuberculin, it was to be remarked at the outset that Koch had not said this method would cure lupus, nor, for that matter, any other disease. The clinical observations regarding the reaction and general effect of such injections in lupus recorded in Europe had been verified in this country. For a time patients were discharged almost daily from hospitals, reported cured, but they had been treated by those whose experience previously had been almost exclusively with pulmonary tuberculosis and who did not appreciate the deceptive nature of lupus. It was safe to say that few, if any, of these cases had been permanently cured. In most of them the "apple-jelly appearance" was present on their discharge, and where this was so it was to be expected that after a few weeks there would be a return. Cases of this kind were no better off than they probably would have been had they been treated for an equal length of time surgically, for instance by the scoop and cautery. Not until the cicatrix had lost its rosy hue and become blanched could we congratulate ourselves on the permanency of the result. The statement of Koch that local or general reaction indicated, as a rule, bacillary invasion, had been verified. There were, however, exceptions to the rule.

The lymph did produce a decided change in lupus, apparently in the direction of a cure, changes which were not brought about by any other known internal or injected remedy. It must be remembered, however, that an active drug, like a two-edged sword, was potential for evil as well as for good. Tuberculin was not unattended with danger even when used with the ordinary precautions. Three cases of lupus had been reported in which the injections had been followed by death. Theoretically considered, we had in the lymph a remedy whose action seemed unique. Unlike other drugs, whose action was seen in both the physiological and the pathological state, this agent seemed to act only in a certain pathological condition. It was a well-known fact that cutaneous lesions would sometimes disappear in the presence of erythematous diseases. It was not surprising, then, that lupus should sometimes disappear under repeated attacks of pyrexia produced by tuberculin. This was only thrown out as a suggestion, and not as an explanation of the action of tuberculin. It was the author's opinion that, as a rule, surgical procedures would offer better results, obtained with greater safety, than the lymph injections.

Statistics.—The reader referred to the recent official report of results of treatment by tuberculin in the Prussian hospitals, and said that of two hundred and fifteen cases of lupus only five were said to have been cured. In thirty-eight trial cases in Paris, not one had been cured.

Cases Treated at Mt. Sinai Hospital. — DR. H. N. HEINEMAN gave the results of treatment of nine cases of lupus with tuberculin, most of which had been seen at the Mt. Sinai Hospital. In his preliminary remarks he cautioned those who intended to try the method not to use large initial doses. For instance, it had been said that in some cases of lupus an initial dose of ten milligrammes might be given, but it was much safer to begin with the usual minimum dose and gradually work up. In one of

his cases a dose of three milligrammes had produced such reaction that he sat up with the patient all night to make sure that he would not slip away. The treatment in most of his nine cases had been begun four or five months ago. The duration of the disease had varied from three to fifty years. In one case, when the dose was increased, it seemed to cause rapid spread of the disease, but on reducing it again to three milligrammes healing took place. In most cases there had been more or less improvement apparent, but of only one could it be said that there had been all but a complete cure. He had no doubt but what a quicker and more complete result would be obtained by combining local and tuberculin treatment. This course was being pursued abroad.

Cases Treated in Bellevue Hospital.—Dr. H. P. Loomis illustrated, with lantern slides made from negatives by Dr. Fuller, cases of lupus treated by tuberculin in Bellevue. The cases described were four in number. In most the change had not been great. In an old woman, who had infiltration of the face and a few apparent ulcers, and also a large epithelioma below the cheek-bone, the thickening and infiltration over the entire face and the small ulcers disappeared, but no effect was produced upon the epithelioma. The injections were continued until they ceased to produce any general or local reaction.

The Tubercular Origin of Lupus Sub Judice.—Dr. R. W. Taylor said that while it would seem the theory of the bacillary origin of lupus was the correct one, yet it was not so generally believed in as the author thought. We were not yet in a position to speak of the mode of implantation of the bacillus, its mode of propagation in the skin, and the appearance presented by it in newly infiltrated areas. Within the last few years other affections had been regarded as allied to lupus (the classical description of this disease), upon the supposition that it was of tubercular nature. Perhaps it was, but the fact had not been clearly made out. The opinion which had been expressed, that most cases of tuberculous skin were associated with tuberculosis of the lungs, was in direct opposition to the observations of others. In how many cases of lupus did one find associated pulmonary disease?

He agreed in the treatment recommended by Dr. Piffard, but thought that caustics would in many cases be more efficient and more easily handled than the actual cautery.

The Knife Contraindicated.—Dr. G. H. Fox, speaking of the treatment of lupus vulgaris, said he had never seen a case, either limited or extensive, in which the curette or some other method was not better and more agreeable to the patient than the knife. He did not approve of the galvano-cautery, claiming that it necessitated the destruction of too much healthy tissue in order to get rid of all the disease. He preferred caustics, especially in connection with the curette. He favored the action of a weak caustic, as pyrogallic acid, which kept up a suppuration, to more active caustics which left a slough. Linear scarification was desirable in some cases of lupus of the nose. The dental burr was invaluable for the cure of some of the underlying small ulcers with a wide base.

Regarding Koch's lymph, while it had not fulfilled first expectations, yet he thought it would prove of considerable value, especially in connection with other forms of treatment in cases which proved rebellious to surgical measures alone.

Favors Local Measures.—Dr. Prince A. Morrow said that, in common with most dermatologists, he had come to accept the view that lupus was a local tuberculosis. It was worthy of note, however, that many dermatologists by no means subscribed to this view. Some did not recognize the bacillus of Koch as the pyogenic agent.

With regard to tuberculin, he thought Dr. Piffard had done well to compare this method of treatment with those of a local destructive nature. He had had opportunity to examine a number of cases subjected to the Koch treatment. Certainly the results in some were most striking. At the same time he did not think that dermatologists who were familiar with the chronic, the almost intractable nature of this affection, with its tendency to recur, would be disposed to accept the statement that by the injection of a lymph into the system the tuberculous tissue would be attacked and destroyed, and a cure be effected in the brief period of a few weeks. This claim was regarded as premature, and had been received from the first with very marked incredulity on the part of most dermatologists. It was thought that six to eighteen months would be necessary to decide upon the cure of the disease. It had been found that the majority of the cases which had been reported as brilliant cures showed, within a short time, signs of relapse, and in some cases new foci of disease developed, and in some the condition was worse than when the treatment was begun. The Prussian and Parisian hospital reports were quoted.

Another Unfavorable Opinion of Tuberculin.—Dr. Edward B. Bronson had had under observation a few cases of lupus treated by injection of tuberculin, and the impression which the mode of treatment had made upon his mind had been unfavorable. One case was apparently progressing toward a cure when the patient left the hospital. In most of the cases, however, although there had been temporary improvement, the ultimate result had been very unsatisfactory. In one case, treated three months, there had been no result whatever. In general, time spent in making the injections seemed to be time lost. A much more satisfactory result would have been obtained by surgical procedures.

Referring to Dr. Fox's suggestion, to keep up a low form of suppuration, he expressed the opinion that it was contrary to good surgery, and said he preferred to effect a cure as soon as possible. It seemed to him that suppuration was a thing which ought to be avoided.

Dr. Piffard closed the discussion. He said it was true that in the beginning lupus seldom showed associated lung trouble, but if the cases were allowed to go on they were likely to ultimately kill the patient by phthisis or epithelioma. Nor were we likely in cases in which tuberculosis of the lungs had existed for some time to find lupus, for the reason that the bacilli had found a better place than the skin. He had had a case of lupus in a woman, in whom it had developed two years after her marriage to a man who had tuberculosis of the lungs.

Public Baths.—Dr. Simon Baruch read a brief paper on public baths. He said that that portion of the community which had the greatest need of bathing had the least facilities for it. Clerks, mechanics, laborers, and their families, ought at least to have as good opportunities for keeping the skin clean as wealthy people thought was imperative for the health of their horses and other animals. The so-called tenement-house odor, which offended the nostrils of cleanly people in public conveyances, emanated from decomposed secretions of the skin which accumulated upon the body of uncleanly people and in their clothing. It was not only a moral obligation upon the community, but a necessity for the safety of their households, to remove this evil. Above all was it the duty of the city authorities to do so. He would advise the adoption of a method whose simplicity and cheapness should overcome every objection. Its essential principle was the abolition of the tub and the substitution of the rain or shower bath. The bather sat upon an inclined plane, drew upon a chain, and a shower of tepid or cold water poured upon him while he scrubbed himself; the soiled water flowed away. The advantages over the tub were, saving of first cost and wear; saving of labor; saving of time, thus accommodating more bathers; economy of space; less danger of communicating disease, etc.

Following the reading of the paper Dr. Crampton offered the following: "Resolved, That the New York Academy of Medicine approves of the construction of public baths in this city as a sanitary measure of the highest importance."

As in the first part of the evening, several of the members objected to the Academy adopting resolutions relat-

ing to special matters as likely to lower its dignity and lessen its influence with the public. They thought such matters could be referred to a standing committee. The majority, however, were not of this opinion, sixteen recording their votes in favor of the resolution, eleven against.

THE NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, February 25. 1891.

H. M. Biggs, M.D., President, in the Chair.

Dr. John H. Linsley said that, in view of the great interest taken in Koch's treatment of tuberculosis, he wished to refer to a letter he had just received from Professor Carl Fraenkel, who, as is well known, is intimately acquainted with Professor Koch. In this letter, which was written as an introduction to Dr. Linsley's translation of Fraenkel's book on Bacteriology, Professor Fraenkel refuses to discuss the present status of this new treatment, on the ground that at the present time experiments were still in progress, and the success of the method seemed very doubtful.

Single Kidney, with Acute Interstitial Nephritis, and Colloid Carcinoma in the Bladder.—Dr. H. S. Stearns presented a report of such a case. The subject of the report was a German shoemaker, fifty-two years of age, who was admitted to the Charity Hospital on January 9, 1891, with a history of considerable pain in the hypogastrium and right iliac region for five weeks, and of retention of urine for two days. The catheter evacuated considerable pus, but not much urine. On the following day the lungs became œdematous, and he died within twenty-four hours. At the autopsy, thirty-two hours after death, the lungs and heart were found normal, with the exception of the pulmonary œdema. The liver was slightly fatty. The only lesion of the intestines was an intense hyperæmia of the peritoneal surface of the cæcum, but no adhesions or anything abnormal were found on the internal surface. The cavity of the bladder was only 4 ctm. in diameter and was partly filled with pus. There were two polypoid masses, each about 1.5 ctm. in diameter, projecting into the viscus, which proved to be carcinoma with colloid degeneration. The wall of the bladder was greatly hypertrophied, and beneath the larger of the two malignant growths it had almost ulcerated through. The left kidney was absent. The right kidney was very large, weighing, with its capsule, 27 ounces. The capsule was 5 ctm. thick and was non-adherent. In stripping off this thick capsule, small abscesses were found between it and the kidney. Microscopical examination showed in the cortex round-cell infiltration about many of the glomeruli and convoluted tubes. Round cells were seen thickly packed in a few tubules. Degeneration of the epithelium was almost universal. Here and there were seen areas of colloid degeneration, but nothing that could be positively asserted to be carcinomatous. As regards the elements of the cortex, the glomeruli and tubules seemed somewhat larger than where both kidneys are present. The pelvis of the kidney showed no evidence of inflammation. The ureter was quite large, but otherwise apparently normal.

The President remarked that cases of colloid cancer of the bladder must be very rare, as in a somewhat extended search which he had recently made into the literature he did not recall a single recorded case.

Sarcoma of the Knee.—Dr. R. H. Sayre presented a specimen which had been removed a few days before by amputation of the thigh. The history dated back three years, and began with pains in various joints, occurring shortly after the patient's confinement. One year later, after falling downstairs, there was an acute inflammation of the knee, which was thought by the attending physician to be an ordinary synovitis. The case was treated by massage, but was not improved. About sixteen months ago, the speaker's brother had seen the patient, and had found a knee-joint which resembled that ordinarily seen in simple tubercular disease, except that there was more swelling of the lower end of the femur. An extension splint gave much relief, and the size of the knee was reduced two inches by strapping. The case had been under the care of the speaker for about a year, during which time it had been treated by extension and immobilization. There had been a morning temperature of 99° F., and an evening one of 100° F., and the patient had had occasional chills. There was supposed to be extensive bone disease, and an operation was advised, but not insisted upon, as the long duration, the irregular temperature, the general condition of the patient, as well as the local appearances, did not point toward malignant trouble. After making the flaps for an amputation, the limb suddenly dropped off, and it was found that the shaft of the femur was very extensively diseased, and the joint was filled with a giant-cell sarcoma. The inguinal glands were slightly enlarged, but no other secondary nodules were found, and nothing to indicate such deposits in the internal organs. The history was rather indefinite as to the exact point at which the trouble began, but it probably began as an active inflammation in the tibia.

Dr. H. J. Boldt asked if it were not probable that the disease was benign at the beginning, but subsequently became malignant as a result of the long-continued irritation.

The President said that sarcomata of bone most frequently began in the upper end of the tibia, and next in frequency in the femur. The specimen showed a very typical giant-cell sarcoma, and from its appearance he thought it had probably begun in the tibia.

A Remarkable Case of Slow Gangrene.—Dr. Eugene Hodenpyl presented specimens from a case which had, for upward of twenty years, puzzled and interested a number of physicians. When about forty-five years of age, and apparently in good health, gangrene developed in one big toe, which was amputated. Following this, gangrene successively attacked the other toes, and then the lower extremities, so that in all, about twenty amputations were performed. A very careful investigation by the physicians failed to elicit any history or evidence of syphilis, diabetes, or similar disorders. In January of 1890, the end of the penis becoming gangrenous, amputation was performed. He remained in good health up to five days ago, when he was seized with vomiting, and then with an ill-defined pain in the epigastrium, which gradually extended over the abdomen. On admission to the hospital at this time the temperature was found to be normal, and no other symptoms were present for several days, when he suddenly went into collapse and died. At the autopsy, on opening the abdomen, it was found filled with blood. The lungs showed the pneumonia of heart disease. The heart was found to be somewhat enlarged, and the cavity of the left ventricle was dilated and its walls hypertrophied; there was also some thickening of the myocardium and of the aortic and mitral valves. The first part of the aorta was nearly normal, but at the arch were several soft atheromatous spots, and at the commencement of the descending aorta was a large nodule. The atheroma extended down the aorta to just above the origin of the common iliacs, where numerous large and small ulcerations were found. This portion of the aorta was very soft and spongy, and it was evident that the hemorrhage took place here, for the subjacent tissues were infiltrated with blood. The spleen, which was very firmly adherent to the surrounding tissues, weighed one-and-three-quarter pounds. It was very hard, irregularly and coarsely nodular, and on section showed several very large, characteristic gummy masses. In fact, nearly the whole spleen was converted into gummata. The kidneys showed the ordinary lesions of chronic diffuse nephritis, and explained the condition of the heart. The liver, stomach, and intestines were nor-

mal. Permission could not be obtained to examine the brain. The gangrene was evidently due to thrombi in the aorta.

Microscopical Examination. — Sections through the spleen showed that the gummata were converted largely into dense, almost structureless, cheesy material. The cheesy areas were surrounded by a zone of small spheroidal cells, which were in turn enclosed by dense fibrous tissue. There was extreme atrophy of the remaining spleen pulp. Sections through the wall of the aorta showed the ordinary appearances of atheroma in various stages. At the lower end of the aorta, where the rupture is supposed to have taken place, the ulcers were large, numerous, and often deep, extending in places almost through the wall of the artery. The tissue surrounding the ulcers was infiltrated with small spheroidal cells, and seemed to be partially broken down.

Dr. E. Fisher referred to a very similar case which had come under his observation, in which the gangrene involved first one foot and then the other, becoming symmetrical. The disease extended beyond the limits found in Reynaud's disease, and finally necessitated amputation of the knee. No reason could be found for this condition during life, but the autopsy revealed a very similar state of affairs to that which had just been described.

Ulcer of the Duodenum.—The President presented specimens of this rather rare condition. They had been removed from a woman, who could give no previous history except that she had some chilly sensations and obstinate vomiting with abdominal pain for some time previous to her admission to the hospital, which was on January 19th. At that time she was stupid and deeply jaundiced. The temperature was irregular, reaching at times 104.5° F., but ranging most of the time between 101° and 102°. She remained stupid for the most part, but occasionally became delirious. Severe vomiting occurred at intervals. She complained of pain on the right side near the free border of the ribs, and an examination of this situation showed the presence of a hard tumor. Two diagnoses were made, viz., one of gall-stones, the other of carcinoma of the stomach, or of the gall-bladder and duct. Death occurred from asthenia.

At the autopsy, the lungs, heart, and all the organs except the duodenum and liver were bile-stained, but otherwise normal. In the descending portion of the duodenum, and involving almost its entire circumference, was a large ulcer with elevated and indurated borders, situated just beneath the papilla marking the termination of the gall-duct. The gall-bladder was much dilated, and on pressure this papilla became swollen and elevated, and thin bile passed through. The tumor was due to dilatation and thickening of the gall-duct. The liver was very intensely bile-stained and somewhat fatty.

Apparently in the early stages this ulcer had almost completely occluded the bile duct, giving rise to obstructive jaundice and dilatation of the gall-duct, but later on the duct had again become pervious. These cases of ulcer of the duodenum were not common and the clinical history was always obscure. In some instances there were scarcely any symptoms, and he had never known of the diagnosis of ulceration of the duodenum which had been confirmed by autopsy. He had seen a case of sudden death in a sailor who was apparently in perfect health, yet the autopsy revealed peritonitis from perforation of the duodenum at the site of an old ulcer.

The Society then went into executive session.

Drunkenness in Edinburgh is not a punishable offence. Persons found in this state are arrested for their own protection and released upon recovery. In this country the punishment of inebriates as criminals is thought to check inebriety. The practical result is that the inebriate is educated into a criminal and becomes a dead weight on the community.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

SOME CHEMICAL POINTS IN THE TREATMENT OF DIABETES —THE INDIAN OPIUM TRAFFIC—HETERALOPIA OF THE SPINAL CORD—INTESTINAL STRICTURE SECONDARY TO STRANGULATION IN A HERNIAL SAC—THICKENING OF SKULL FROM RICKETS—CHRONIC ATROPHIC RHINITIS CURED BY INOCULATION WITH GONORRHŒAL PUS.

London, April 11, 1891.

Some interesting and novel points in connection with the pathology and treatment of diabetes were brought forward by Dr. A. E. Wright, late Research Scholar of the Grocers' Company, in a lecture recently delivered at the University of London. The lecturer pointed out that all sugars were not alike in their effect on the diabetic organism. Professor Külz had succeeded in establishing that levulose differed from dextrose in this respect. The chemistry of the sugars thus became of importance to the physician. Dr. Wright presented the following classification: I. Monosaccharids: Dextrose, levulose, galactose. II. Disaccharids: Milk-sugar (composed of dextrose and galactose), Cane-sugar (composed of dextrose and levulose), Maltose (wholly composed of dextrose), III. Polysaccharids: Dextrose group (starches, dextrins); levulose group (inulin, levulin). Of these, dextrose, starches, and dextrins were unassimilable hurtful sugars; levulose, inulin, and levulin were assimilable innocuous sugars; galactose had not yet been sufficiently studied.

The lecturer observed that there was at present a universal consensus of opinion among clinicians that the carbohydrates in the food of the diabetic patient must be restricted in order to avoid poisoning the system by the presence of large quantities of unassimilable sugar; some clinicians absolutely prohibited all carbohydrate food. Such absolute restriction had not, however, always resulted in unmixed good. It had been shown that, although the sugar was thus reduced to a minimum, other morbid products, such as acetone and oxybutyric acid, appeared or increased in quantity in the urine. The ideal diet for a diabetic would be one consisting of proteids and fats, to which the innocuous lævo rotatory carbohydrates had been added in such quantities as were available, or, in default of these, the "assimilable quantum" of dextrorotatory carbohydrates, at least whenever the bad results of a proteid diet were manifesting themselves. The importance of the fats in the diabetic dietary had not been sufficiently emphasized in this country.

Of the entirely assimilable class of sugars we had only two—levulose, and inulin. The former did not occur by itself in nature. Inulin was a homologue of starch, with the important difference that, instead of yielding dextrorotatory simple sugars, as starch did, it yielded only lævorotatory simple sugars. It occurred abundantly in dahlia tubers, in dandelion, chicory, and other roots, and it could be baked into a good bread. Against it was its price, some fifteen shillings per pound; if it were cheaper, the first step would have been taken toward its being produced for the market; at present, an innocuous sugar for dietetic purposes remained an unrealized desideratum, though we might possibly have an approach to such a food stuff in the Jerusalem artichoke, the carbohydrates of which, according to Tollens, were levulin and inulin during the spring and summer, while dextro-rotatory carbohydrates made their appearance, in the tubers only, in the autumn.

As we were not able to give the best thing in the way of carbohydrates to our patients, we had in certain cases to inquire what was the next to best, viz., the "assimilable quantum" of dextro-rotatory carbohydrate. The lecturer remarked that he had used the term "assimilable quantum" as if every diabetic had an appreciable quantity of dextrose he could assimilate without secreting

sugar. This obviously could not be the case in the severe form of diabetes, in which the patient continued to excrete sugar even although he might be taking none. But, on the other hand, there was reason to believe that no diabetic patient, even of the severe form, excreted all the sugar he took in his food. He was, in fact, in almost exactly the same position with regard to sugar excretion that the diabetic of the lighter form was when he had been given sugar in excess of his assimilable quantum. With reference to the question of giving carbohydrates in the severe form of diabetes, Dr. Wright suggested that something might be ventured in that direction so long as the assimilation ratio was moderately high, and so long as what he had called the morbid products of proteid metabolism were urgently requiring attention. But it was only when there was urgency of this kind that an increase of sugar in the urine should be permitted, and in other cases it was only a weak pity that would allow a diabetic unnecessary carbohydrate.

The lecturer said we had no knowledge of what he had from the clinical stand-point called a mixed sugar in the chemical class of the non-crystallizable polysaccharids. They either fall entirely within the class of assimilable or of hurtful sugars. When, however, we came to the group of the disaccharids, we met with two examples of mixed sugars, viz., cane-sugar and milk-sugar. From its chemical constitution it resulted that two parts by weight of cane-sugar contained less unassimilable sugar than one part by weight of starch. This meant that we might allow fruit in diabetes a great deal more readily than we might allow bread, and it showed that in the selection of vegetables for the diabetic patient we should choose such as contained as much of their carbohydrates as possible in the form of cane-sugar. With regard specially to such fruits as grapes, the sugar of which was almost entirely cane-sugar, it was wonderful how little harm resulted to diabetic patients from eating great quantities of them.

Milk-sugar consisted of equal parts by weight of dextrose and galactose. If galactose were an assimilable sugar—a point not yet made out—milk-sugar would also fall into the category of the mixed sugars. There were considerable difficulties in the way of ascertaining whether galactose was assimilated or not, and it was plain that the question could not be settled without a large number of observations. The general result of those made on man was that the addition of milk-sugar to a diabetic diet, in almost all cases, seriously increased the amount of sugar in the urine; this should obviously be expected, seeing that it contained fifty per cent. of dextrose. When we came to the practical clinical side of the matter we found that milk, because of the four per cent. of milk-sugar it contained, had been steadily forbidden to the diabetic by the great majority of clinicians. Dr. Donkin's "skim-milk" treatment had a good deal to recommend it in the fact that the proportion of fat to proteid was larger than it would be in almost any other diet, but the weak point of it was that the carbohydrate of milk was milk-sugar, which was not a desirable element in diabetic diet. When, however, we came to consider the very severe restrictions that had to be imposed on the diabetic in the matter of diet we could not help feeling some amount of regret in having to proscribe the valuable proteid and fat of milk because of the presence of the milk-sugar. The lecturer said he had been able to arrive at a solution of the problem. Instead of getting rid of the sugar from the proteid and fat of the milk, which he failed in doing, it was evi dently possible to perform the reverse process, and to separate the proteid and fat of the milk from the sugar, *i.e.*, to precipitate the casein and fat of the milk by very dilute acetic acid, filter them off, allowing all the sugar to run away from them, and then to redissolve the washed precipitate in a solution of the normal salts of milk, to which a little alkali had been added.

The indications on the occurrence of which it might be desirable to allow sugar in diabetes were the appearance in large quantities in the urine of the morbid products of proteid metabolism. Among such products were acetone, acet-acetic acid, and oxybutyric acid. With regard to the conditions of excretion of every one of these bodies, a number of facts had been collected which raised a very strong presumption that these bodies had their source in the proteid metabolism of the body. The idea that the administration of alkalies in diabetes was a good routine practice was undoubtedly incorrect, for disappointment generally resulted.

The remainder of the lecture was almost entirely devoted to a discussion of the phenomena of phloridzin-, and phloretin-diabetes.

The question of the Indian opium traffic came before the House of Commons again yesterday evening, when Sir J. Pease's resolution that the system was morally indefensible, was carried by a majority of thirty votes. This was the more noticeable inasmuch as, so far as the speeches went, the proposer of the resolution received but scant support, most of the speakers defending the system. In face of the hostile vote, possibly the Government may propose some modification of the present system.

Two specimens from cases of "heteratopia" of the spinal cord were presented to the Pathological Society at its last meeting. One specimen was from a patient who had for many years suffered from a gradually increasing exfoliative dermatitis, and who, two years before his death, developed severe polyarthritis, which was followed by the signs of a transverse myelitis; death resulted at the age of twenty-nine from exhaustion, due to repeated attacks of bronchitis and the formation of a bedsore. The other specimen was from the body of a man who died, aged twenty-four, from general paralysis of the insane.

At the same meeting of the Society, Dr. Newton Pitt showed a specimen of chronic intestinal stricture, secondary to strangulation in a hernial sac; he said he had only been able to find two cases recorded. Mr. Shattock showed two infants' skulls greatly thickened by rickets.

In the course of a discussion at the Medical Society on chronic atrophic rhinitis, following the reading of a paper by Dr. De Havilland Hall, Mr. Spencer Watson mentioned a case of the disease which had got well after accidental infection by gonorrhœal pus.

SEXUAL INSTRUCTIONS FOR THE YOUNG.

To the Editor of the Medical Record.

Sir: The sexual instinct is the strongest and the ruling passion of the human race—it has always been so and always will be. Though many believe man would be a superior being were he created by some other God-given function, the fact remains that man is as he is, and must evolve from his condition the best possible man.

As man is created, the sexual instinct is the root and foundation of most that is good and most that is bad. The political economist can trace most of the social distress of to-day to abuse of the sexual instinct; the physician can trace most of the physical suffering of to-day to the same cause. Much of this suffering can be avoided by proper training. Possibly, in the distant future, the human race will be intelligent enough to believe that it is a social crime for weakness and disease to beget offspring; possibly then they may show by their deeds that they realize the breeding of humanity is governed by the same laws as the breeding of cattle. To day, however, the laws of heredity are entirely ignored, and disease and weakness are allowed to produce like qualities *ad libitum*, resulting in endless suffering from that stern law, "the survival of the fittest." Could the results of the abuse of this law be truthfully painted, the sight would cause humanity to shudder with horror, and everywhere people would debate as to how these terrible crimes against society could be stopped at once.

Everywhere, to-day, children are born with disease who

could justly curse their parents for their birth. Everywhere, to-day, children are born with health, who from sexual ignorance are destined to acquire and beget disease. The remedy is proper physical instruction — instruction which will plainly teach that children have a right to demand sound bodies as well as trained minds—instruction which will be "sexual," plainly showing that disease produces disease.

The old saying, "mens sana in corpore sano," expresses so much that thus far we have not reached the "in sano corpore." I should change the quotation to read, "corpus sanum in sana mente," and, for a change, train the coming parents to realize that a "corpus sanum" is given by them, a "sana mens" is acquired readily by their children, especially if blessed with inherited sound bodies. From the beginning of man the greatest social forces have been self-preservation and reproduction; or, in other words, what to-day may be called "mental training and sexual training;" thus far sexual training has been left to "instinct," blind instinct, with no reason and no self-control, resulting in venereal disease and hereditary weaknesses, much of which can be avoided by proper and necessary instruction. People yearn, absolutely yearn, for just this kind of instruction, but those who can and should give it cry "'Sh!!" and crawl into their shells when the subject is mentioned. Meanwhile our youth receive instruction from their companions—instruction filled with ignorance and filth, and never touching the great yet simple law that "like begets like," "disease produces disease."

As a teacher of young men I have often overheard "sexual discussions" where an older boy fills his younger hearers with such statements as "clap is not as bad as a cold," and "pox isn't so bad;" but never have I heard one word of good intelligent advice. We know these are true statements, yet we—intelligent parents—take no steps to remedy the evil.

In a crowded room of a boarding-school I have heard a boy of nineteen proudly telling innocent young lads of the location of houses of ill-fame in New York—young lads who should have been kept at home and truthfully instructed rather than be "posted" by such instruction.

I have been in a school attended by noble young lads, and have seen one foul boy contaminate an innocent school—ay! because parents hesitate to instruct in what so closely concerns the welfare of their children. What a satire it is upon the intelligence of "posted" men who remember the days of their youth—days of sexual curiosity and ignorance—that children are forced to be sexually trained by foul and ignorant companions.

We who have mingled much among young boys know how keen is their desire for facts; we have seen it in their anxious faces and in their eager questions—questions which prove that they instinctively believe they should know these things. Should they not? Then let them be instructed carefully and correctly; let them be taught the value of a sound body in the battle for life and social position; let them be taught the use and abuse of the sexual function; let them be taught the stern yet kind laws of heredity; let them be posted correctly, for "posted" in some way they will be.

The silence of the profession upon this subject has long been a mystery to me; daily we see weakness and disease produce the like; daily we see children born but to suffer and die; daily we see venereal disease acquired through ignorance; daily we see ruin and suffering and death, much of which could be avoided by proper training—training which would in itself suppress quack lectures and pamphlets and ignorant "discussions," and substitute in their place truth.

Youth, to-day, bright and curious, knocks at the door of our profession for instruction. They should receive it, and we alone can properly give it. For this reason I have sought the columns of the MEDICAL RECORD, hoping that its host of earnest observing men will seriously consider how sexual instruction can best be imparted. Many favor compulsory lectures, few in number and lasting for several years—the years in which youth should change from animals to "posted" men of self-control—the years from fifteen to eighteen—where without this instruction in many cases the growth is from young animals to corrupt and ignorant men—animals still. In the name of our children and our children's children, in the name of health and purity and perfect manhood, I beg of my readers, filled with the memory of the temptations and ignorance of their young manhood, to see to it that the light of intelligence is cast upon that ignorance which now unnecessarily causes unlimited suffering, disease, and death.

R. ELLIS, M.D.

DANBURY, CONN.

New Instruments.

A NEW ARTERY FORCEPS.[1]

BY A. M. PHELPS, M.D.,

NEW YORK.

SOME of the serious objections to the artery forceps in general use are: 1. The difficulty of clamping an artery in dense inflammatory or fibrous tissue. 2. The tying of the ligature around the forceps instead of the artery. To avoid this in the ordinary forceps the assistant tilts up the end while the operator ties. 3. Arteries clamped in deep wounds are with difficulty ligated, owing to the almost certain tying of the ligature around jaws of forceps.

To obviate these defects Bergman, of Berlin, advised the forceps which bears his name.

FIG. 1.

Fig. 1 furnishes a correct idea of the instrument. It is made of German silver. The jaws are armed with fine teeth or serrations which will grasp and hold hard fibrous or inflammatory tissue. It has a blunt rounded point over which a ligature will always slip. It is clasped with a thumb slide. The objections to this forceps are: 1. Its great weight unfits it for work in cellular tissue or in small operations, when many forceps need to be applied during the operation. So much timber is in the way of the operator, and its great weight tears the tissues away. 2. The slide catch is objectionable, for when the hands are covered with blood it is with difficulty that the slide can be moved to clasp the forceps.

To overcome the objections in the Bergman forceps I devised the forceps figured in Fig. 2.

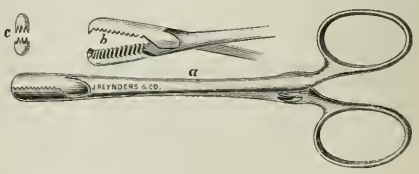


FIG. 2.

They have the jaws of the Bergman, a modified hinge of the French, and the clasp of the ordinary forceps. These forceps will catch dense tissue and hold. They are suitable for operating in deep wounds, because the operator cannot tie on to them, and they are as light as the lightest forceps. There is a forceps in the market simi-

[1] Presented at the Surgical Section of the Academy of Medicine, April 13, 1891.

lar, but it differs in not having the wide blades, which prevents the possibility of tying on to them.

A half-dozen pairs of these forceps, together with other forceps, will be found of great service in certain operations.

40 West Thirty-fourth Street.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from April 12, 1891, to April 18, 1891.

Birmingham, Henry P., Captain and Assistant Surgeon. By direction of the Acting Secretary of War, the leave of absence granted in S. O. 39, March 13, 1891, Department of the Columbia, is extended one month. S. O. 81, par. 2, Headquarters of the Army, A. G. O., Washington, D. C., April 10, 1891.

Middleton, Passmore, Major and Surgeon. By direction of the Acting Secretary of War, is granted leave of absence for six months, on surgeon's certificate of disability. S. O. 81, par. 4, Headquarters of the Army, A. G. O., Washington, D. C., April 10, 1891.

By direction of the Secretary of War, a board of medical officers to consist of Major Henry McElderry, Surgeon; Captain James C. Merrill, Assistant Surgeon; Captain W. Fitzhugh Carter, Assistant Surgeon, is appointed to meet at West Point, N. Y., May 1, 1891, or as soon thereafter as practicable, to examine such cadets of the United States Military Academy as have been granted leave of absence until that date on account of physical disability, and to report upon their physical fitness to continue with the Corps of Cadets. S. O 83, par. 2, A. G. O., Washington, D. C., April 13, 1891.

Wood, Marshall W., Captain and Assistant Surgeon. By direction of the Secretary of War, is relieved from duty at Fort Meade, S. D., and will report in person to the commanding officer at Fort Preble, Me., for duty at that post, relieving Captain William B. Davis, Assistant Surgeon. S. O. 85, par. 11, A. G. O., Washington, D. C., April 15, 1891.

Davis, William B., Captain and Assistant Surgeon. By direction of the Secretary of War, on being relieved by Captain Wood will report in person to the commanding officer at Fort Clark, Tex., for duty at that station. S. O. 85, par. 11, A. G. O., Washington, D. C., April 15, 1891.

Official List of Changes in the Medical Corps of the United States Navy for the week ending April 18, 1891.

Beardsley, Grove S., Medical Director. Appointed a delegate to represent the Medical Department of the Navy at the meeting of the American Medical Association, at Washington, D. C., May 5th.

Flint, James M., Surgeon. Appointed a delegate to represent the Medical Department of the Navy at the meeting of the American Medical Association, at Washington, D. C., May 5th.

Griffith, S. H., Passed Assistant Surgeon. Detached from the Dolphin, and granted one month's leave of absence from date of detachment.

The Insanitary White House.—The plumbing inspector of Washington has recently made an examination of the White House, and reports that the condition of the plumbing there is very far from perfect, and recommends a thorough overhauling of the bath-rooms and water-closets.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending April 18, 1891.

	Cases.	Deaths.
Typhus fever	1	0
Typhoid fever	7	3
Scarlet fever	200	37
Cerebro-spinal meningitis	3	5
Measles	327	23
Diphtheria	108	38
Small-pox	2	0
Varicella	13	0
Pertussis	2	11
Erysipelas	0	0
Mumps	0	0
Rötheln	0	0

What is an Item?—A correspondent writes to inquire what we mean by "items" as a heading for one department of this journal. He says he finds a prescription at one time, a practical hint on diagnosis at another, again a bit of humor, a scrap of news, indeed almost anything that is interesting and yet expressed briefly, all in this one column. An item may be defined as a paragraph, but if that is not satisfactory to our friend we will quote a recent writer in the *Australasian Critic*, who says that the sonnet has been found to be just the proper length for the expression of a single thought in verse, and that the true paragraph may be defined as the sonnet of newspaper prose. We may say, therefore, that our "items" are the sonnets of medical literature.

The Treatment of Chronic Tropical Diarrhœa.—In a paper read before the Medico-Chirurgical Society of Edinburgh, in April, 1890. Dr. Charles Begg stated that he had found santonine the most effective remedy for this disease. His plan of treatment is as follows: He places the patient in bed, or at least keeps him on the couch, and commences the treatment, if a flatulent condition indicates it, by a dose of castor-oil guarded with laudanum. Warm water enemata and hot fomentations are also often employed. The diet is principally milk, eggs, beef-tea, dry toast, or soda crackers, and brandy. The nourishment should be taken frequently in small quantities. Each night a dose of five grains of yellow santonine well mixed in a teaspoonful of olive-oil is given, or, if the patient does not suffer much from the effects of the drug, it may be given the first thing in the morning. This is continued for six days, at the end of which time, according to Dr. Begg's experience, a cure has usually been obtained.—*Edinburgh Medical Journal*, September, 1890.

The Profession in Chicago.—The *North American Practitioner*, published in Chicago, is not altogether pleased with the doctors of the windy city, if the following editorial comment is seriously intended: "One of our friends remarks on the importance and authority of medical students in Chicago colleges. He is astonished that professors recognize them on the street. In those centres of culture and refinement from which all good things emanate, a student is stuff—a mere clod. There is a recompense in all things, and we wish now to assure the medical student that if he remains in Chicago after he graduates he will find that he must come down from his high position and become, so far as his seniors are concerned, mere stuff. They will take his cases from him when they are called in consultation. They will make calls at his next-door neighbor's at two dollars a visit and underbid him for the work of street railway companies, factories, ice companies, and other corporations. They will sit in their offices and write prescriptions at a dollar a piece when they could do better work, make more

money, and be a credit to the profession at five times these fees. The student will, after years of experience of this kind, wish he had been treated as a clod during his short years of study. This Cheap John sort of business is encouraged by the lawyers, who go about and secure expert testimony for their clients from the lowest bidders. In a case involving many thousand dollars, a physician was consulted and requested to give an opinion, and be ready to testify in court. For so simple a proceeding as the examination of a crushed elbow, he, an untitled doctor, had the presumption to charge fifty dollars. At this the legal light rebelled and cited as a precedent the fact that he had two professors of surgery for expert testimony at ten dollars apiece. We can only explain such a dog-in-the-manger policy on supposition of a *furor* for advertisement. The fees of Chicago physicians of well-established reputation are niggardly. This class of men monopolize the hospitals without time to utilize them for scientific purposes, because they are too busy picking up their petty fees to observe, to read, and to investigate. Therefore our societies are barren, our schools mercenary and homely, our hospitals priest-ridden and mismanaged, and the profession undistinguished abroad and unrespected at home."

Insomnia in Infants.—Dr. Jules Simon considers insomnia a symptom of much importance in infants. In many diseases it is a symptom of minor importance, and of no special interest. In others it is one of the chief manifestations of the disease. The influence of dentition has been greatly exaggerated. Unless congestion of the gums or surrounding parts is present, it causes but little disturbance of the sleep. Dyspepsia and indigestion are the most common and universal causes of disturbed sleep, even without the definite symptoms of vomiting, diarrhœa, or marked constipation. A discussion of the treatment would involve a review of the whole subject of dietetics. Causes referable to the nervous system probably occur next in frequency. All young infants may, even in the first year, present evidences of acute cerebral congestion. Extremes of either cold or heat may produce the same result. A child that has been exposed to a strong wind during its daily airing, or one that has had insufficient protection from the sun, may pass a restless and uncomfortable night. This condition must be distinguished from the insomnia of meningitis, which, in some cases, is for many days the only sign. In older children, headache due to overtaxing of the brain is not uncommon. Anæmia and rapid growth, in conjunction with over-study, is a fruitful cause of insomnia. In children of rheumatic parents this tendency is especially marked. Among nervous causes in these older children, hysteria, chorea, and epilepsy are the most common. The young hysterical subject is always liable to insomnia, with or without headache. Some attribute all headaches of this period to hysteria, but the author believes that the distinction should be carefully made between such headaches and those due simply to rapid growth and over-study. The insomnia of epilepsy is peculiar to itself, and is sometimes the only symptom for a considerable period. The child suddenly wakes from profound sleep, sits up, and begins to cry, but soon lies back, as if exhausted, and falls into a deep sleep. These attacks are always accompanied by incontinence of urine. Insomnia complicating chorea is an exceedingly grave symptom. Earache is always accompanied by insomnia, and usually by continuous crying. Hernia is a cause of pain and sleeplessness that is frequently overlooked. Intermittent fever is in some cases marked by wakefulness at a definitely recurring period. Insomnia and headache are prominent and early symptoms of albuminuria.—*New York Medical Journal.*

"Tuberculin" in Tuberculous Diseases of Children.—At a meeting of the Berlin Medical Society, February 7th, Professor Henoch spoke unfavorably of the treatment in pulmonary tuberculosis of children, of whom he had treated twenty by this method. Three of these were in the "advanced" stage, but without fever; they were all made much worse, the fever induced by the injections persisting as hectic. Yet only $\frac{1}{2}$ milligr. (at first he only gave $\frac{1}{10}$ milligr.) was given at the commencement of treatment, and the largest dose was 3 milligr. In one case there was temporary improvement, dulness disappearing, only, however, to return with increase of other signs on continuance of the injections. Another case illustrated Professor Virchow's statements. A girl of eleven years, whose mother had recently died from phthisis, had suffered from a cough for a year; but there were hardly any physical signs, except slight dulness near spine of scapula, prolonged expiration, and some rhonchus at apices. An injection of $\frac{1}{2}$ milligr. gave no reaction. One of one milligr. produced next day a rise of temperature to 38.6° C., and some râles appeared at the left base. Five injections in all were given, and a few days after the last, signs of extensive consolidation of the left lung appeared; and even after a month's interval they had very slightly decreased. Obviously it was not a mere transitory hyperæmia, but whether caseous or catarrhal hepatization could not be determined. There was some suspicion of commencing excavation, for the breathing, which was intensely bronchial, had an occasional amphoric tone, and the râles were metallic. Professor Henoch attributed this change without a doubt to the injections. He said not one of his cases had been "cured," not one "improved," except the one which subsequently relapsed to a worse state; and he was embarrassed to decide if he should continne the treatment in children any longer. It would be ludicrous, in the case of a child, to follow the practice of some physicians, who do not use the injections except at the patient's own wish. Bearing in mind the tendency for tubercle in children to be dispersed in many foci throughout the body, he felt one would be justified in only using it with the greatest reserve, and perhaps at no distant date in discontinuing the practice altogether.

Cocaine in Small-pox.—Drs. Luton and Ory recommend highly the internal use of cocaine in the treatment of variola, having tried it during a severe epidemic that raged in Algiers, in November, 1889. The good effect of the remedy was shown almost immediately by a lightening of the color of the eruption and disappearance of many of the papules without becoming purulent. Even in those cases in which the papules persisted for some time there was no suppuration. One of the cases in which the remedy was tried was one of black small-pox, from which the patient recovered. The cocaine was exhibited in a five per cent. solution, of which from ten to twenty drops were given every six hours. As no pustules were formed, there was no pitting.

BOOKS RECEIVED.

A Guide to the Clinical Examination of the Urine. By Farrington H. Whipple, A.B. (Harv.). 12mo, 206 pages. Damrell & Upham, Boston, Mass

Warner's Therapeutic Reference-Book. 12mo, 119 pages. William R. Warner & Co., Philadelphia, Pa.

The Modern Antipyretics, their Action in Health and Disease. By Isaac Ott, M.D. 8vo, 52 pages. E. D. Vogel, Easton, Pa.

A Contribution to the Natural History of Scarlatina. By D. Astley Gresswell, M.D. 8vo, 205 pages. Macmillan & Co., New York.

Report on Water Supply and Sewerage. Part I., 1887–91. State Board of Health, Massachusetts. 8vo, 857 pages.

Diseases of the Nervous System. By William A. Hammond, M.D. 8vo, 932 pages, illustrated. Price, $5. D. Appleton & Co., New York.

Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 39, No. 18.
Whole No. 1069.

NEW YORK, MAY 2, 1891.

$5.00 Per Annum.
Single Copies, 10c.

Original Articles.

ON THE REMOTE EFFECTS OF REMOVAL OF THE UTERINE APPENDAGES.[1]

BY PROFESSOR LAWSON TAIT,

BIRMINGHAM, ENGLAND.

THE fact has now been established in all countries where the art of surgery is practised in a scientific fashion that there are diseases of the uterine appendages of such severity as to demand the removal of those organs in order to relieve the patients from the risk of impending death, to relieve them from intolerable and otherwise incurable suffering, or even for the relief of symptoms which are destructive of health and comfort. It now comes to be a question for calm determination as to how far the application of such an operation can be justified, in the first place, by its primary mortality, and, in the second, by the remote results obtained from it. I have, I believe, completely set at rest the question of the primary mortality by the publication of authenticated lists of cases, in which it is shown that the primary mortality can be reduced to less than three per cent., and therefore all serious objections on that score have ended.

The second question is, however, one not so easily settled, and based upon it we still have from time to time energetic, but, I think, mistaken protests urged against the operation as a whole, while it seems to me that such protests would be more useful and far more effective if they were directed toward the proper limitation of its application.

When the operation was first brought actively under the notice of the profession, and the conditions which appeared to justify its performance were laid down in detail, two sets of opinions were speedily developed in the minds of the profession, both of which, it seemed to me, were mistaken. In the first place, a set of opinions was formed which were entirely hostile to my proposals, and the men who adopted them simply ignored all tha was demonstrated concerning the diseases of the uterine appendages and the effects of the removal of these organs on certain diseases of the uterus. As time passed on, the number of men who entertained those views diminished in number, so that now they are limited, in England, to a few discontented obstetric physicians who cannot operate and who do not care to see their consulting-rooms emptied of a number of well-paying chronic cases who now are speedily and cheaply cured at the hands of the operating surgeon. The last expression of this kind fell from the pen of the obstetric physicians of the Hospitals of St. Bartholomew and University College, a sort of medico papal encyclical letter which beats, for impudent assurance, any truculent outbreak of infallible theologians since the days of the Grand Inquisitor.

The other set of opinions which was developed on the question of the removal of the uterine appendages was much less troublesome but far more dangerous. These opinions occupied the minds of men to whom the performance of operations was a craze, and to whom the mastery of general principles an impossibility. They merely agreed that, given a woman with pelvic suffering, the thing to do was to remove her uterine appendages. The result was the performance of many unnecessary operations, an objectionable result which seems inevitable in the history of all new surgical proceedings.

The operation of removal of the uterine appendages was further and most unfortunately complicated by an altogether erroneous application of the facts of physiology which are known to be applicable to animals being applied, without due inquiry, to men and women, and soon altogether ridiculous conclusions were affirmed, even to the extent of being entirely subversive of conclusions well established concerning animals, and, to some extent, even known to be true about humanity. Thus it is quite well known that in both animals and mankind removal of the uterine appendages (and their analogues in the male sex) some time before the access of puberty will prevent the growth of sexual personalities and the development of the sexual passion, the result being, among other things, that the immature characteristics are more or less maintained—in women the girlish form and character never being entirely replaced by those of the mature woman. It was therefore, and most inconsistently, asserted that women upon whom the operation was performed for surgical reasons, became prematurely old in appearance and acquired certain masculine characteristics as a remote result of the removal of the uterine appendages. Nothing that I have seen in a series of cases, now amounting to many hundreds and extending over a period of nearly twenty years, can be held to do other than completely contradict such ridiculous statements.

It is perfectly clear that the remote results of removing the uterine appendages, in animals as well as in women, before the access of puberty, are widely different from those obtained from the same operation performed after the great physiological change. Further confusion ensued concerning the supposed destruction of the sexual passion, by a total disregard of the dissimilarity of the conditions of animals and those of men. In animals, save when demoralized by domestication, the sexual appetite is governed entirely by the period of rut, and the female animal will not permit of the approach of the male save at the œstrus, and that may be an annual period governed by climate. The human female has no period of œstrus, and permits the access of the male at any time, showing a disinclination only at the menstrual period, which is, therefore, not the period of rut. A destruction of the glands which produce the œstrus would clearly keep the female animal in a constant state of hostility to the male access, but when there is no such arrangement, but really exactly the reverse, the destruction of ovulation (which is really the period of rut in animals), could have no such effect, at least it would not necessarily have it.

In women the access of puberty generally brings with it rhythmic menstruation, and this latter function is now known to depend entirely on the peculiarities of the endometrium, arising from the upright position of the human body. The endometrium alters again to its premolimenal condition about the age of forty-eight, and we then have in women what is known as the "change of life." But in animals there is no such period, and, practically, age never seems to determine the limits of childbearing, as it does in women. Mares, long after age has unfitted them for work, are used for breeding purposes, and I know of a mare that had a foal when she was at least forty years of age. Cats are generally quite tooth-

[1] An address delivered to the French Surgical Congress, at Paris, on April 2, 1891.

less and very aged in appearance at twelve or fourteen years of age, but their œstrus and their powers of reproduction are maintained till sixteen or seventeen years of age, a period of life which would, I think, correspond to eighty or ninety in women. In women, ovulation goes on, as proved by De Sinety and Melassez, and many other observers, till the very end of life, just as it does in mares, cats, and bitches; and but for the specially human changes in the endometrium, there would be no limit to the child-bearing years of women. It is not surprising, therefore, that wrong conclusions have been guessed at concerning the remote effects of removing the uterine appendages in women, when the whole physiology of the text-books has been based upon erroneous assumptions, repeated from one author to another, without due investigation.

When the question is carefully inquired into, and without prejudice, it is found that women have their sexual appetites far less developed than men, a fact explained by the process necessary in evolution, that the male has always been the struggling and aggressive creature. When the child-bearing period of a woman's life passes away, there goes with it a certain amount of her sexual appetite. In a few cases the appetite entirely disappears, but in an equally large number of instances it becomes exaggerated, sometimes grotesquely so. In the majority of women the appetite lessens, and even disappears, during the time of the climacteric disturbance, and then returns to its former condition when the change has been effected. Everyone knows that during the period of disturbances women undergo more or less suffering, chiefly from nervous symptoms. The most characteristic and peculiar symptom is an alternation of rapid changes from heat to cold, the face burns, and seems to be florid and pale in rapid change. The temper of the patient becomes disturbed, in occasional instances even to the length of insanity, and this change is often marked by an especial dislike to her husband. In pronounced cases of this latter symptom I have always found it to be due to a complete loss of the sexual appetite, and an antipathy to sexual congress. Generally, but not always, this change is only temporary, and may last from six months to three years. After the completion of the change the previous conditions are usually resumed, but in a few cases the change becomes permanent.

Had these facts not been wilfully disregarded, or had the critics of the operation now under discussion not been foolishly ignorant of them, much less nonsense would have been uttered on the subject. The indirect and remote results of the operation must necessarily imitate more or less closely those seen at the normal climacteric. This ought to have been, and must be, an *a priori* conclusion, and it is completely justified by clinical observation.

We have, then, two well-established facts to start from, the first, that the known tendency of the operation of removal of the uterine appendages is to maintain rather than to destroy juvenile physical characteristics, and to match in all other respects the process of the climacteric change.

But is is always dangerous to apply the facts of normal physiology, particularly when derived from observations on animals, to the processes of disease, and therefore I desire to place before the Congress the general conclusions, based upon a unique experience, where the operation has been performed for disease.

For purposes of convenience I divide my cases into three groups, even though the division is an arbitrary one. No absolutely accurate division can be made, for many of the cases will be found to overlap from the division in which they are placed into some other. The divisions I propose are, 1, those cases in which the operation is done for disease or symptoms which are uterine, such as myoma, otherwise incurable metrostaxis and incurable dysmenorrhœa; 2, for changes in the uterine appendages, themselves due to inflammatory disease; 3, for conditions and symptoms of a nervous kind, mainly in connection with the menstrual periodicity, and which it is hoped to relieve or cure by the arrest of menstruation. Cases from each division will be found to overlap, as a patient suffering from myoma may, and not infrequently has, chronic inflammation of the uterine appendages, and also may have severe neurotic symptoms; chronic inflammatory disease of the uterine appendages often gives rise to marked rhythmical nervous disturbances, even amounting to insanity.

The evidence yielded by my practice upon the first group is given at length in a pamphlet just published, and from it I extract a few sentences which give my general conclusions concerning the remote results of removal of the uterine appendages for myoma in 271 cases, with a primary mortality of 6 cases, or 2.2 per cent. Of the 265 cases which recovered there were 8 cases in which the results were unsatisfactory, that is to say, where the tumor grew and had to be removed by hysterectomy, or the patients died from conditions which were suspected to be more or less directly associated with the continuance of the disease, as, for instance, the development of myoma-malignant alteration. "This leaves 257 out of a total of 265 cases in which complete cures have been effected—that is to say, in which the symptoms have been satisfactorily relieved—where the tumor has either entirely disappeared, or has so diminished, or has been so satisfactorily arrested as to be no longer a source of anxiety or trouble, and where the main feature of the disease, exaggerated menstruation, has been completely and permanently arrested. . . .

"Concerning the disappearance of tumors after the removal of the appendages and the arrest of menstruation, there can be no doubt whatever that the youth of the patient has a great deal to do with the activity of the process and the extent to which it is carried out. I cannot give the figures which will yield an exact indication of this result, but I think it may be fairly expressed as follows: That under forty years of age about seventy per cent. of the tumors entirely disappear. Between forty and fifty, as a rule, they do not disappear entirely, but become markedly diminished, and after forty-five the diminution is only a shrinking, running between one-third and one-sixth of the bulk of the mass. There have been in my experience, however, remarkable exceptions to this latter conclusion, as I have seen a tumor much larger than an adult head disappear in a woman between forty-nine and fifty after the operation. The ages of many of the patients on the list will indicate very clearly the erroneous belief which exists in the professional mind that the approach of the age at which the menopause usually takes place gives anything like certain relief in cases of myoma, for no fewer than nine of the cases were upward of fifty years at the time of the operation. . . .

"In one case (1,276) the patient has become a complete neurasthenic, but her tumor and the symptoms arising therefrom are completely cured. It may be that her neurasthenia is the result of the operation, but I know of no indication which justifies this conclusion. With one other exception, this is the only case in which nervous symptoms have supervened to any serious extent since the operation. During the process of the climacteric several of my patients became queer for a short time, that is, they were eccentric and ill-tempered, but nothing was more marked in these respects than we often have in women during the normal change of life; in fact, I should say, on the whole, there has been a good deal less of this among these thirty women than if they had been going through the normal climacteric.

"A question has recently been raised by Dr. Thomas Keith concerning the occurrence of insanity after grave operations upon the uterus, particularly hysterectomy, and he has made the statement that it occurs in the proportion of ten per cent. of the cases. This can only be explained as a clerical error or an exceptional result, for it is wholly unsupported by the evidence of anyone else

who has written on the subject. I have operated upon a very much larger number of cases of hysterectomy than Dr. Keith has done, and I know of no case of insanity in my practice. Instances of insanity occur after all surgical proceedings, even the most trivial, and even after the administration of an anæsthetic without any operation at all.

"In the present list of cases one patient alone, so far as I know, has been committed to an asylum, and she is there now (Case 1,453). On reading the report of the case it is quite clear that the woman was perfectly insane before the operation, and Dr. Marriott Cooke, of Worcester, under whose care she is at the present moment, sees no reason whatever to attribute her insanity to the result of the operation. But even if it were to be so attributed, there are three cases in the list in which, for reasons which must be evident I cannot indicate, acknowledged insanity of the most pronounced type has been completely cured by the relief of the sufferings involved by the hemorrhagic myoma; and, in addition to these three cases of pronounced insanity, which have been completely, and, so far as we can see, permanently cured, there are a number of cases of striking eccentricities and ill-temper which have been clearly due to the sufferings, and which have been equally relieved.

"It may be in future, when the method of research which I have initiated in this particular operation is extended to others, that a very much enhanced value may be credited to a large number of our surgical proceedings; but, so far as we have gone, I think it would be very difficult indeed to bring forward instances in which it is at all likely that a higher value could be attained by any operation than in the present instance. The operation not only relieves, but permanently and completely cures, the sufferings of the disease against which it is directed, and I think it must be admitted as one of the most brilliant additions to modern surgery of which we have any knowledge."

Besides the symptoms and conditions induced by the growth of myomatous tumors of the uterus, there are occasional instances in which excessive menstruation, due to unascertainable causes and resisting all such minor measures as intra-uterine medication and the use of the curette and cautery, demands the removal of the uterine appendages as a last resource for the purpose of saving life. In their after-history, as in the purport of the operation, these cases do not differ in any way, so far as I have seen in the small number which have come under my notice, from the cases of myoma.

Cases of extreme arrest of development of the uterus, accompanied by normal growth of the tubes and ovaries, sometimes demand removal of the appendages to relieve the intolerable sufferings involved in the futile efforts of the uterus to fulfil its rhythmic functions. Nor do these cases present any special feature in their after-history and progress. Concerning the second group of cases of the uterine appendages, for changes in the uterine appendages themselves due to chronic inflammatory disease, I cannot speak with the same convincing authority that I can of the cases of myoma, only because I have not had time as yet to trace out a large group of cases and investigate and tabulate their subsequent histories, as I have done in the instance of myoma. Such a proceeding is a work involving a very great deal of trouble and occupying much time. I have, however, a hope that within the next few months I shall be able to report upon some hundreds of cases with results quite as satisfactory as I have established for the operation in the case of myoma.

In the second group the initial conditions are, however, very different from those of myoma, and thereby the operation itself becomes subject to indefinite and indefinable differences of detail. The operation for removal of the appendages in myoma is generally a difficult one—often a very difficult one. In a few cases its completion involves the major proceeding of hysterectomy.

The operation for removal of the appendages altered by chronic inflammatory disease is always difficult. Sometimes the difficulty is so great as to be perfectly unmatched in the whole range of surgery. Many very competent surgeons declare there are many cases where the operation cannot be finished; but that is a conclusion I cannot accept, as increased experience, and consequently greater boldness and perseverance, has enabled me of late years to complete every operation I have begun. I lay it down, therefore, that no operation of this kind should be left unfinished.

This rule, if accepted generally, as it is in my practice now completely established, opens up at once a great road for difference of result, rate of progress, and remote effect of the operation. I never hesitate to overcome the most intimate adhesions of an old suppurating tube or ovary to bladder or intestine merely for the fear of a rent of these viscera. In many cases I have had urinary and fecal fistulæ remain for months after an operation, but I have always succeeded ultimately in closing them. Simple suppurating sinuses, leading deep down into the pelvis, occur in probably five per cent. of all the cases, and they may last indefinitely until they are treated by a special method which I have described as circular drainage. The remote effects of the operation, in a large proportion of these cases, and necessarily in the worst class of them, are on this, and other similar accounts, postponed far longer than are the same results in a case of myoma, where usually there is only the one group of symptoms, generally only one symptom of hemorrhage to contend with. If menstruation is arrested by the operation in a case of myoma, the whole of the trouble is over in probably ninety per cent. of the cases, and the subsequent recovery and convalescence is astonishingly rapid. But the mere arrest of menstruation is not all that is required in cases of old pelvic suppuration, and even less severe cases of chronic inflammation of the pelvis; in fact, arrest of menstruation may not be essential for a cure. Every month there has been not only a great pelvic engorgement inducing profuse menstruation, but there has been a week or ten days of agonizing pain, demoralizing the patient possibly to the extent of inducing her to give way to the excessive use of alcohol and hypnotics. These conditions have thrown the patient out of health in a very complex fashion. The presence of diseased appendages also generally renders marital intercourse a matter of impossibility, or one involving great suffering; and here again a strong moral element of the destruction of health may have entered into the case.

The operation may at once, as in the great bulk of cases, arrest menstruation, but it very often does not arrest at once the pain; and the explanation is precisely that of the pain felt after amputation of a limb in which there has been chronic disease with great pain. The pains remain and recur for months, often for years, after the disease has gone, remain till the nerves which originally carried them have atrophied sufficiently to be useless. In the pelvic operations these pains seldom last twelve months, but during that time they are sometimes a cause of great disappointment to the patient and worry to the surgeon. In four instances where they did not yield, I reopened the abdomen and found that in three instances on one side, and in one instance on both sides, the Fallopian tube, amputated close to the uterus, had formed a cyst afresh. The process clearly was that the tube, being originally occluded quite within the uterus at its proximal end, the cut extremity had closed, thus making an "interstitial" Fallopian cyst. I cut all five of them out, with the result of curing three of the patients at once and completely. The fourth patient unfortunately died of the operation. In order to obtain rapidly the ultimate relief desired in these cases, it is absolutely necessary to remove the Fallopian tubes completely. The remote effects of this operation may, in this group, be completely effected without the arrest of menstruation, indeed, in some of my most satisfactory cases menstrua-

tion has not been arrested at all, but the symptoms demanding the operation have been at once and completely relieved by the removal of the diseased appendages. This constitutes a remarkable difference from the cases in the first group, where, of course, arrest of menstruation is the initial and necessary step for a cure.

When menstruation is not at once arrested, and indeed in some instances where it is, the progress of the case may be most seriously interrupted by the occurrence of an effusion of blood into the structures and between the layers of the broad ligament. There can be no doubt that this is due to the rupture of some blood-vessel whose current resents the obstruction to its flow. Such effusions always occur at the time of resumption, or attempts at resumption, of menstruation. I believe they occur in about four or five per cent. of all operations involving constriction by ligature of the broad ligament. The most serious I ever saw (p. 466 of my work on "Diseases of Women and Abdominal Surgery") was after the removal of a parovarian cyst. I have seen many after the removal of ovarian tumors and after removal of the appendages for all kinds of conditions. They generally give rise to very little pain, but their presence may be guessed at by an otherwise unaccountable rise of the pulse and temperature curves. These effusions were not seen, at least were not noticed, in the old days of the clamp, the heavy mortality of which made finer clinical discriminations impossible, just as it prevented all surgical progress.

In the great bulk of the cases these effusions are of small size and disappear with great rapidity, seldom being discoverable a fortnight after their first appearance, and even if of large size—I mean large enough to be felt over the brim of the pelvis—they give no real trouble if they do not recur and do not suppurate. If they suppurate they require to be opened and drained, and then they materially interfere with the subsequent recovery in the sense that they delay it. Perhaps it may be that the same influence which induces the occurrence of the hematocele prolongs the convalescence of these cases; but whatever the cause, and whatever the effect, it is certain that the cases in which these hematic effusions in the broad ligament occur have the most protracted convalescence, so that instead of the remote results being arrived at in a few months, it is occasionally four or five years before a perfect relief of all the symptoms is secured.

The general conditions arrived at in the remote effects of the removal of the uterine appendages differ essentially in no particular, save one, from those already described as in the first group. This particular is, however, of such importance as to require special indication. In chronic inflammatory disease of the uterine appendages one of the most severe symptoms, and, under certain circumstances, the most distressing, is the inability of the sufferers to endure the agony involved in marital intercourse. In the majority of instances requiring operation this function has to be wholly suspended, or is indulged in only by husbands brutal enough to be insensible to the danger and suffering which it involves for their wives. Removal of the diseased organs permits resumption of intercourse nearly always in a few months; and the temporary disturbance of the sexual appetite by the premature climacteric change effected by the operation, or even its occasional obliteration, is far more than compensated for by its restoration to the sufferers, to whom marital life before the operation was an impossibility. Very much misrepresentation has been made upon this point by a few adverse critics, and even a few weeks ago Dr. Routh, ex-President of the British Gynecological Society, went so far as to appeal to us as Christians not to destroy the sexual appetite in women by removing their uterine appendages. Even if this were shown to be a universal result of the operation, instead of only a very occasional one, I confess it would appear to me to be a strange addition to Christian duty to place upon surgeons, that they should foster, protect, and cultivate the very lowest of the animal passions, that of all others which brings trouble among us. I should look upon a husband who refused to his wife the relief from hemorrhage in a case of myoma, or the relief from danger and constant agony, as in a pyosalpinx, because the operation necessary would make her irresponsive to his sexual attacks, as a mere brute. And I unhesitatingly condemn members of our profession who use such arguments as dirty-minded creatures wholly unworthy of our holy calling. Concerning the third group of cases which I have defined as being such as may justify the removal of the uterine appendages for conditions and symptoms in connection with menstrual rhythm, I have first of all to say that I have avoided the extension of my practice in this direction with a caution which I think has been excessive to the point of mistake. A few cases of decided menstrual epilepsy, that is, cases where the fits have been confined absolutely to the menstrual period, and a few cases of eccentric characters where I have been urged by overwhelming outside influences to undertake the operation, do not justify me in speaking at all positively on this division. In England we have had such a bitter warfare on the previous two groups, where it seems to me that the operation can be defended by arguments and facts that are overwhelmingly convincing, that I have never cared to venture far within the neurotic group. I shall therefore confine myself to the narration, briefly, of two cases over which sufficient time has passed to show conclusively the completeness of the remote effects of the operation in well-defined and extreme cases, and to say generally that I am persuaded that in the group of neurotic ailments the operation has a great future before it—after the present warfare has ended and when its proper application can be studied in peace and without prejudice.

The first case is one of a girl, whose appendages I removed on April 9, 1880, at the request of the late Dr. Green, at that time Superintendent of the Birmingham Borough Asylum, confirmed by the view of Dr. Whitcombe, then Assistant Superintendent and now the Senior Officer. She had been imbecile from birth, and after menstruation developed epilepsy at her periods. This disease increased with her age, until, for many months before the operation, the attacks were simply continuous, that is, for the whole menstrual week she hardly had any appreciable interval free from convulsions, and required the constant care of two strong attendants, who had to be supplied in relays. It was the joint opinion of Drs. Green and Whitcombe that she must speedily die from the mere violence of the convulsions and the impossibility of feeding her if no relief could be given.

After the removal of the appendages she never menstruated, and in a few months the fits diminished till they were represented by a few transient attacks (*petit mal*) at the time she ought to have been unwell. She retained, of course, her original imbecility, but her epilepsy was practically cured.

A lady, aged twenty-five, one of the most beautiful women I have ever seen, was married at the age of twenty-two, and in fifteen months had one child. About a year after the birth of the child it was observed that she presented many unpleasant eccentricities during her menstrual week, at other times being wholly free from them. She was the niece of one of the greatest surgeons then alive, the author of a work on surgery still more quoted than perhaps any other of our text-books. It is needless to say more than this to prove that everything that could be reasonably suggested was done for the patient, but all treatment failed; she went from bad to worse, and was finally, during one of her menstrual attacks, discovered in the act of attempting the life of her only child—a being adored by her at all other times. Her uncle desired that I should be consulted concerning the proposal to treat her by removal of the uterine appendages, and I visited the city in which they lived for the purpose. Finding no physical signs of disease of the appendages I absolutely refused to fall in with the pro-

posal. But in some eight months her condition became so much worse that I agreed to carry out the proposal, placing the entire responsibility of the operation on those who proposed it. Suffice it to say that it completely cured her in a very few months, and that for now more than six years she has not had the slightest appearance of her old troubles, but has led a perfectly healthy and satisfactory life. With such brilliant examples before me I am sure that my passive resistance to the proposal to carry out this proceeding in properly selected cases will give way, and the active hostility even of the old-fashioned English obstetric physicians will vanish. With such brilliant results, even if they be obtained only in a minority of the cases, there can be no doubt the application of the operation will be judiciously extended.

THE QUANTITATIVE ESTIMATION OF SUGAR WITH ROBERTS' FERMENTATION TEST.

By MORRIS MANGES, A.M., M.D.,

ATTENDING PHYSICIAN TO OUT-DOOR DEPARTMENT, MOUNT SINAI HOSPITAL, NEW YORK.

It is not the purpose of this paper to enter into many details concerning the fermentation of grape-sugar by yeast, yet there are inherent in this process two important advantages which deserve notice. The one is that fermentation is the only absolute test for determining the presence of glucose; it is the chemist's crucial test to absolutely distinguish it from allied substances, some of which may have a similar chemical composition, or may reduce Fehling's solution, or may have a right rotary action on polarized light.[1] The other is that none of the usual reducing substances (albumin, uric acid, etc.) can interfere with its action.

The principle upon which all the fermentation tests are based is the well-known splitting up of glucose by yeast into alcohol and carbon dioxide. $C_6H_{12}O_6 = 2C_2H_6O + 2CO_2$. Another reaction occurs which is not expressed in the formula; that is, the specific gravity of the fermenting fluid is lessened in direct proportion to the amount of grape-sugar present. This loss of weight is due not alone to the disappearance of the sugar, but also to the presence of the generated alcohol; it is the presence of the latter which sometimes, though rarely, causes the specific gravity of the fermented liquid to sink below 1.000.

From the above we see that there are several factors which may be utilized in quantitative estimations by this method. 1. The carbon dioxide, usually estimated by volume, as in Einhorn's method. 2. The alcohol; is too complicated and unreliable. 3. The difference in the specific gravity of the unfermented and fermented fluids; may be estimated (*a*) by actual weighing with accurate balance, as is done by chemists; is not adapted for general use; (*b*) by taking specific gravity, as in Roberts' method.

For clinical purposes we are thus reduced to the methods of Einhorn and of Roberts. Einhorn's method being too well known to need description here [2] we shall at once proceed to consider the test proposed by William Roberts of Manchester;[3] and so well has its distinguished author done his work, that, although thirty years have almost elapsed, the method stands practically as originally proposed. The only requisites for the test are a sufficiently wide cylindrical urinometer jar of about two to three ounces capacity, and two good urinometers, one reading from 1.000 to 1.025, the other, 1.025 to 1.050;[4] large subdivisions of the scale are essential. Urinometers with thermometers are desirable, but by no means absolutely necessary. The tests of a good instrument are that in distilled water at the temperature for which it is corrected, the instrument should stand at 1.000, and in a dilution of any salt solution with an equal volume of distilled water the reading should be one half of the gravity of the original salt solution.

The procedure is carried out as follows: Having accurately taken the specific gravity of the specimen of urine, and noted the temperature, about four ounces (if quantity is small, one-half this amount will suffice) are poured into a twelve-ounce bottle, "a lump of compressed yeast about the size of a walnut" (half a cake will be found sufficient) is added and thoroughly stirred up; the bottle is then closed with a nicked cork, to permit the escape of the CO_2 gas generated. A standard is then prepared by filling a two or four ounce bottle with some of the same urine, and is securely corked without having added anything. The two bottles are now put aside in a warm room for eighteen to thirty-six hours, when the fermentation will have been completed, as is shown by the cessation of the formation of bubbles in the fluid, and also by the clearing off or subsidence of the scum. The bottles are removed to a cool place so that they may acquire the same temperature as at the beginning of the test; a portion of the fermented fluid is decanted and the specific gravity and temperature are again noted. It is also well to note the gravity of the "standard," to see if it is identical with the original reading. The difference in the two readings of the specimen before and after fermentation multiplied by 0.23 will give the percentage of sugar in the specimen. Or we may express it thus: each degree of specific gravity lost in fermentation represents one grain of sugar to the ounce of urine. The total amount for twenty-four hours being known, the total amount of sugar can easily be calculated.

Roberts gives two examples. A specimen showed 11.36 per cent. sugar by titration with Fehling's solution, (=49.64 grains to the ounce). The specific gravity was 1.0535; after fermentation it fell to 1.0045; it lost 49°, *i.e.*, 49 grains to the ounce; or, × 0.23 = 11.27 per cent.

A second specimen had 5.68 per cent sugar (=24.82 grains to the ounce) as shown by titrating with Fehling's solution. The original specific gravity was 1.03832; after fermenting it fell to 1.01356; the difference was 24.76°, *i.e.*, 24.76 grains to the ounce; or, × 0.23 = 5.69 per cent.

This method has been very carefully examined by Worm-Müller, the specific gravity having been determined very accurately with the pyknometer. His results[1] as obtained with weighed quantities of glucose were:

	Sp. gr.	After fermenting.	Difference.	Calculated.
				Per cent.
4 per cent. sugar.....	1.03621	1.01819	0.01802	4.1446
2 " " "	1.02851	1.01977	0.00874	2.0102
1 " " "	1.02476	1.02080	0.00426	0.9798
0.5 " " "	1.02290	1.02070	0.00220	0.05060

Based upon the results, he accepts Roberts's coefficients that 1° = 0.23 per cent. sugar, and says, "Roberts's method is an exact method for the quantitative estimation of sugar in urine, which is scarcely excelled by any other, provided the percentage of sugar be not less than 0.4 per cent."

Roberts's coefficient is also accepted by Smoler,[2] Jaksch,[3] Guttmann,[4] and other observers. Slightly different results were obtained by Menassein[5] (1° = 0.219 per cent),

[1] Leo has isolated such a substance, which has the same chemical formula, reduces Fehling's solution, and rotates polarized light to the right, yet differs from glucose in not fermenting.

[2] Virchow's Archiv, vol. 102, p. 263; New York MEDICAL RECORD, 1887, vol. 31, p. 91; Deutsche Med. Wochenschrift, 1888, No. 30, p. 620.

[3] Edinburgh Medical Journal, October, 1861, p. 326; Lancet, 1862, vol i., p. 508.

[4] Should the specific gravity be above 1.050, the specimen should be diluted. This is uncommon, however.

[1] Pflüger's Archiv, 1884, Band 33, p. 211; 1885, Band 37, p. 479.

[2] Archiv Wissens. Heilkunde, 1884, p. 256.

[3] Jaksch: Klinische Diagnostik, second edition, 1889, p. 294.

[4] Deutsche Med. Wochenschrift, 1890, No 1, p. 7.

[5] Salkowski and Leube: Lehre von Harn, 1882, p. 236.

and Antweiler and Breidenbend[1] (1° = 0.213 per cent. – 0.218 per cent.).

Jaksch says, after trying the method on eight cases of diabetes, that "it gives thoroughly reliable results for clinical purposes, and is one which is to be commended, especially to busy physicians, on account of the simplicity and ease of its application." He quotes four cases which were examined with a special apparatus designed to prevent evaporation (which, however, is superfluous), the control-examinations having been made by polarization :

No.	Roberts's method.	Polarization.
	Per cent.	Per cent.
1	2.22	2.25
2	3.55	3.65
3	6.06	6.01
4	6.23	6.00

Guttman[2] highly commends the method after having used it in over one hundred cases. He has simplified the method as follows : In a three to four ounce cylindrical glass vessel the specific gravity is taken ; a quarter of a cake of compressed yeast is added and thoroughly stirred up ; the vessel is covered with a piece of paper and set aside at 15° C. (59° F.) for twenty-four hours. Then the yeast has settled, and the specific gravity is taken in the same vessel at about the same temperature as the original observation. He has ascertained that the temperature changes exert slight differences in the result if the percentage of sugar is over one per cent. ; and if over two per cent. it is reduced to $\frac{1}{2}$ per cent. to $\frac{1}{10}$ per cent. The exact difference is 3° C. (5.4° F.) = 1° ; thus a reading of 1.022 at 12° C. would be 1.021 at 15° C., and 1.020 at 18° C.

He cites three results :

No.		Sp. gr.	After fermenting.	Difference.	Calculated.
					Per cent
1	3 per cent. weighed sugar	1.034	1.0215	12.5	2.90
2	4 " " " "	1.032	1.014	18.	4.14
3	Diabetic urine titrated = 1.63 per cent.	1.011	1.0045	6.5	1.495

I have tried Roberts's method in a fair number of specimens, and the results, from a clinical stand-point, have been very satisfactory. Comparisons were made with Einhorn's method, and the specimens were also titrated with Fehling's solution, as modified by Munk.[3]

I append the results of seventeen specimens.

No.	Spec. gravity.	No. of degrees lost.	Calculated.	Einhorn.	Fehling.
			Per cent.	Per cent.	Per cent.
1	1.037	30	6.90	6.80	7.14
2	1.030	20	4.60	4.50	4.76
3	1.0245	3	.69	.70	.714
4	1.028	10	2.30	2.40	2.60
5	1.0205	2.5	.575	.60	.714
6	1.0245	6	1.38	1.25	1.66
7	1.0215	3	.69	.80	.90
8	1.0315	19	4.27	4.27	4.37
9	1.0315	8.5	1.95	1.75	1.92
10	1.037	20	4.60	4.37	4.55
11	1.028	8	1.84	1.80	2.00
12	1.028	5	1.15	1.10	1.38
13	1.037	27	6.21	6.25	6.41
14	1.032	25	5.75	5.20	5.60
15	1.0255	4.5	1.035	.90	.909
16	1.0225	10.5	2.415	2.70	2.50
17	1.023	8.5	1.955	2.25	2.10

[1] Pflüger's Archiv, 1882, Band 28, p. 179.

[2] Loc. cit.

[3] Vide paper by W. Mendelson, New York Medical Journal, 1888, vol. 48, p. 5.

[In passing I would call special attention to this modification of Fehling's test, where an immediate analysis is desired, and an estimation can easily be made within twenty minutes. Not alone is the method rendered less time-consuming, but it is made more exact ; as the precipitate caused by the calcium chloride carries down the fine particles of copper oxide so well that filtration may very easily be accomplished, provided we wish to test the end reaction by adding acetic acid and ferrocyanide of potash to the filtrate.]

These figures agree with those of the other observers in proving that there is no constant source of error, but that the result may be more or less than the actual amount. What the cause of this error is I have been unable to ascertain. That it is not due to the urinometer is shown by Worm-Müller's figures, who also obtained higher and lower results although the pyknometer was employed to determine the difference in the specific gravity. Possibly we may find the cause in subtle changes of temperature, or in the secondary fermentation which occurs in the yeast itself. Whatever these influences may be, they are surely not of very great importance, nor do they detract from the claims of this procedure of being called the "Clinical Method," as was proposed by Roberts.

The advantages of the method may be summed up thus : It is simple ; it requires no special apparatus nor special experience ; dilutions are unnecessary, and hence the multiplication of an error is avoided ; impurities in the yeast have very little effect on the result. The disadvantages, besides that inherent in all the fermentation tests, that they are slow, are, that it does not show amounts of sugar below 0.4 per cent., and also that it requires a larger amount of urine. The latter, however, is more apparent than real, for in Einhorn's method we must also have enough urine to estimate the specific gravity.

There are also certain disadvantages present in Einhorn's method from which this method is free. In the first place, gases are much more affected by differences of temperature and atmospheric pressure than are liquids. Then the necessary dilution is a cause of inaccuracy ; Einhorn gives definite rules as to the proportions, as if certain ranges of specific gravity must correspond with approximate amounts of sugar, for he directs that "diabetic urines of a straw color and a specific gravity of 1.018–1.022 may be diluted twice ; of 1.022–1.028, five times ; 1.028–1.038, ten times." There are other ingredients, however, in urine which may markedly affect the specific gravity, *i.e.*, urea, phosphates, chlorides, etc. The analyses already quoted show this very forcibly ; thus, Nos. 8 and 9 of the last table both have specific gravity of 1.0315, yet the one has 4.37 per cent. sugar, and the other, 1.92 per cent. Furthermore, a high specific gravity does not necessarily mean a large amount of sugar, nor a low specific gravity indicate a small percentage. Thus No. 3 of Guttman's cases has specific gravity of 1.011, yet has 1.495 per cent. sugar, and Nos. 11 and 12 of my own series, each with a specific gravity of 1.028, have only two per cent. and 1.38 per cent. sugar respectively. If we do not dilute enough, the gas will pass up into the bulb ; if we dilute too much, the amount of gas will be so small that a large error is unavoidable, because of the subsequent multiplication.

Guttman[1] has also shown that only a small part of the carbon dioxide remains in the long arm of the saccharometer, while the greater part escapes into the air through the bulb. Thus 10 c.c. of a one per cent. saccharine urine ought to give off 24 c.c. of CO_2 at ordinary temperature and atmospheric pressure ; of this only 5 c.c. are registered, while 19 c.c. are lost. (A small amount of the gas may also be absorbed by the fluid.) This objection, however, may be more theoretical than practical, for even Guttman comes to the conclusion that for saccharine urines under one per cent., Einhorn's method gives reliable results.

[1] Deutsche Med. Wochenschrift, 1890, p. 8, where Einhorn's method is critically analyzed.

I would go even further than this, and say that with most urines it gives results which are sufficiently accurate for clinical purposes; but, at the same time, I would assert that Roberts's method is in many respects superior to it. Neither method, however, gives absolutely accurate results. But this applies to every test which has yet been proposed for this purpose, even to the most delicate of them all, polarization and Fehling's test. For the right rotation of polarized light may be partially neutralized by the presence of oxy-butyric acid, which rotates polarized light to the left. As for Fehling's test, we are all familiar with the difficulty of telling exactly when the blue color has disappeared, and we all know how its results may be affected by the reducing action of albumin, uric acid, kreatinin, etc.

941 Madison Avenue,
December 15, 1890.

OUR MINERAL SPRING RESOURCES.

By J. D. KELLY, A.M., M.D.,

LOWVILLE, N. Y.

The tourist going abroad in the month of June notes with wonder the number of Americans who throng the cabins of ocean-going steamers at that season. Many are evidently in pursuit of entertainment, others rest and relaxation, and some the health-restoring benefits of a season at the noted spas and health-resorts on the other side. If he be at all informed in the mineral water resources of this country, his wonder will seek expression in the query: Why do so many intelligent people cross the Atlantic to avail themselves of what abounds at home? There must be some reason for it. The character of the people flocking abroad implies that. What is it? Fashion, do you say? Yes, in some degree; but converse with them, and you will soon observe that they are going abroad chiefly for the facilities which are assured them at Bad-Nauheim or at Homburg, or at Carlsbad, or at Salins les Bains more than for any implied superior virtues of the waters themselves. With loyal patriotic fervor, they will promptly assent to your complimentary reference to the mineral springs of America and their climatic advantages, in season or all the year round. There seems to be no lack of general knowledge of the quality and excellence of American mineral waters, but there is a decided preference for a season on the other side, for the advantages which are afforded by a full equipment of therapeutical accessories to be found at the mineral springs there.

To know how far this preference is justified by fact, one need only to take a cursory view of the mineral spring health resorts of this country. At most of them the invalid is necessitated to depend solely upon the unaided native resources of the place. Until very recently, the accommodations at the spas of this country were mere hotels or boarding houses where the contest was often between bad culinary resources and the restorative properties of the water. Recently, but in a comparatively few instances, suitable bath-houses, supplied with modern appurtenances, have been constructed, and the virtues of the waters supplemented by a resident staff of physicians. The greater number of our mineral springs, however, are no better qualified than they were fifty years ago. To one conversant with the methods pursued at the spas of Belgium and Germany, the procedures in vogue at our fashionable watering-places appear like travesty. Not alone at our fashionable resorts, but also at the more distinctly remedial resorts, where the waters may be of rare superior merit, the same absence of method and facilities may be noted. The invalid, upon arriving at one of these mineral springs, is told that the water of this spring is cathartic, of that one diuretic, and, in the absence of a medical director, he assumes that the one or the other will fill the requirements of his case, and he proceeds to avail himself of the opportunity. He drinks the water, and, if any means be at hand, he bathes in it. His only method of procedure is suggested by his own taste or the directions given to him by someone there who has received benefit. It is assumed that what has helped conditions in one case, will also help in another where there is any approximation of symptoms, real or imaginary. Full of hope and expectation and faith to make him whole, he proceeds by drinking too much, or too often, at the wrong time, in the wrong manner, or at all times. The weak stomach is flooded, and dilatation, hyperalkalinity, or acidity aggravated. Failure of his appetite or digestion attracts his attention, but filled with confidence by the improved cases, he attributes it to any but the right cause, and perseveres till the conviction is forced upon him that he is certainly getting worse. The inconsistency of seeking at the hands of a physician at home a prescription for ten grains of potassium bromide on the one hand, and of drinking *aa libitum* the sulphates, chlorides, and bicarbonates in solution in mineral spring water on the other, does not appear to occur to him. In this way kidneys at the point of acute nephritis may be hurried on to speedy destruction; the liver in some degree of atrophy or hypertrophy, may be soon rendered wholly incompetent; and affections of the glandular system, and of the mucous tract generally, take their chances in this haphazard treatment. Disappointed at length, he may leave one resort to go through the same inappropriate course at another, or, wholly discouraged, he may abandon all pursuit of health in this direction, and return to his pills and cataplasms at home.

What wonder is it that confidence in the value of a season at our watering-places is often very small! As one, with due appreciation of the requirements of such places, considers how deficient they are in supplemental facilities, it is rather a wonder that they have sustained even the reputation attached to them; and that reputation, greater or less, persisting through all such adverse conditions, indicates the great value inherent in our mineral waters, and is suggestive of their superior possibilities under adjuvating circumstances.

The neglect of requisite accessories in the matter of baths and of bathing is even more conspicuous, and any comparison with European spas in this feature consequently more disparaging to us. Balneotherapia has not yet become a deservedly prominent feature of therapeutical procedures in this country. At our mineral springs resorts, where all the indications for its exercise are the strongest, one sees little of it, and that little as often incompetently exercised. In the absence of medical supervision, invalids exercising their own tastes or notions in the matter, not only fail often to appreciate the curative properties of the waters, but in many cases they aggravate, as in drinking the water, existing derangements, and even engender unexpected complications. The value, the potency of a therapeutic measure, may often be estimated by the deleterious effects of its maladministration, and one needs only to study the consequences of undirected bathing in mineral water, in some instances, to obtain a due appreciation of the potency of that agency in therapeutics. With this in mind, I have often looked upon the inadequate appurtenances at most of our mineral springs as a safeguard of the character of prevention or limitation, for, were the mechanical facilities complete, there can be no question that invalids conducting their own cases in absence of competent medical direction, would, as in drinking the water, oftener suffer the consequences of derangement engendered in this way than derive the benefit which naturally follows the proper use of the baths. The weight of this consideration is appreciated when we observe the prompt and decided effect of the cold, tepid, or hot bath, in even plain water, upon the skin, the circulation, and the reflexes upon the nerve-centres and organic function. No agent in medicine produces more prompt local or general effect. Every experienced and observing practitioner knows how, in emergency, in crises, the potent influences of the bath are enlisted, supplanting all medicine temporarily set aside.

Commensurate with such potency for good is its power to damage. As well place any or all the more effective drugs or keenest instruments in the hands of invalids for self-use and self-treatment, as to advise the unrestricted and undirected use of the baths at mineral springs. The principle is the same, and the consequences quite as deplorable. And yet this is just what is done. The invalid, voluntarily or acting under some suggestion, visits one of our mineral springs, and, in the absence of competent professional direction, proceeds, quite as invalids do, in drinking the water. He bathes too often, too long, at the wrong time, or in the wrong manner. Whereas his condition would be benefited by warm baths, he takes them cold, or *vice versa*. While his case may require local treatment, as with the douche, he may depend upon simple general immersion. Lesions readily amenable to suitable administration of the baths, or to electro-balneotherapia, are considered intractable under the unaided course he pursues, and the discredit attaches at once to the waters as inefficacious.

It is very refreshing, however, to observe the improvements and advances recently made in proper equipment of some of our mineral springs. As an instance worthy of emulation, I may mention the new bath-house and its appurtenances at Richfield Springs, N. Y. In adaptability of architectural design, in arrangement and variety of its baths, and in scientific facilities for the therapeutic employment of the waters, I commend it to the proprietors of mineral springs as a model up to date. Withal, a competent resident physician is in charge, with an office in the bath-house, in complete supervision of all therapeutic measures which the place affords. The waters at Richfield, however, are of the sulphur class, and are applicable chiefly to affections amenable to sulphur in therapeutics. On the other hand, at Massena Springs, N. Y., where the waters, of the saline class, are of rare and excellent properties, the only means of employing them in the bath are very simple, and the only therapeutic effect therefrom is limited to what may be obtained from leaving the body in them. The valuable therapeutic properties of these waters are comparatively unavailable, locked up under the primitive conditions which some near day, it is to be hoped, will be displaced by the hand of science and the waters applied as their properties merit. Again, at Chester Springs, Pa., we have an instance of *relapsus*. The waters there, some of the sulphur and others of the saline and chalybeate classes, are of excellent properties, and at one time were frequented by invalids in goodly numbers. The only facilities, however, were bath-houses of very simple design constructed over the springs, with one common well or swimming pool in the centre, surrounded by a narrow platform upon which the dozen or so dressing-rooms opened. With no professional supervision and with facilities so rude and limited, it occasions no wonder in one competent to estimate these things, to see this resort now entirely deserted, its bath-houses in tumble down ruins, and this beautiful place, so endowed by nature, given over to grazing and watering cattle. I believe the time is at hand when these favored places will be rehabilitated, and, equipped with the appurtenances of recent balneo therapeutics, become what the great Physician evidently designed them to be: for the healing of the nations.

Recent researches and discoveries in bacteriology have created new interest in the constituent properties of mineral waters and in the rationale of their therapeutic action, particularly those of the sulphur class, and those of the saline class containing the chlorides. Notably, waters containing the chloride of calcium in appreciable quantity are attracting, in the new light of recent discoveries, increasing interest in the discussion of infiltrated glands, the treatment of tubercle, of cutaneous affections, rheumatism, etc. The value of the chloride of calcium as a therapeutic agent has long been known in medicine, but in connection with bacteriological study is recently attracting new interest. It received special commendation by so eminent authority as Professor Wm. H. Thomson, at a recent session of the New York Academy of Medicine, with particular reference to its rare and superior virtues in the treatment of scrofulous conditions. The value which this salt imparts to mineral spring water is very high, not alone for its efficient properties, but because it is comparatively rare even as an appreciable element in mineral spring water. In the water of one of the springs at St. Clair, Mich., 2437.491 grains are present in each gallon, and therefore give to that water a rare and distinctive potency in the treatment of affections of the scrofulous and rheumatic diathesis. When waters containing efficient elements like this are supplemented by electrical apparatus to obtain cataphoretic effect, their efficacy is greatly augmented and the therapeutical results sometimes really wonderful. The bath-house and its appurtenances at St. Clair Springs is another very pleasing and promising instance of adequate modern equipment. A resident medical superintendent and competent staff direct the administration of the waters, and adapt them properly to each individual case. The growing popularity of these properly equipped health-resorts is attracting attention, and will contribute in no small degree to the movement yearly growing greater for putting our unsurpassed mineral springs in competency to lend their virtues to the healing our sick, and, in doing this, spare them the fatigue of travel abroad.

The bounty of mineral springs in all parts of the world, implies a design as beneficent and direct as do the natural deposits of gold, silver, iron, coal, and oil. The great Chemist in adapting their several constituents was not without a purpose, the wisdom and providence of which are more and more discerned and appreciated as the world develops toward competency. As we progress in time we shall see the resources of mineral springs more and more developed and utilized in therapy, and in this country particularly, more and more adequately equipped for all procedures in balneotherapia. The growing interest of many of the best and brightest intellects of the profession is demonstrated by the number and character of new works on balneology, each year increasing in number and value. The field for study and investigation opened up under the light of recent advances in bacteriology and in scientific appurtenances is very inviting, particularly to the student in balneology, in so far as the rationale of the therapeutic action of mineral waters is thereby unequivocally indicated.

Treatment of invalids at mineral springs implies more than the mere application of the curative properties of the waters. It implies removal from the confines of the sick-room, the shop, or the counting-house, to the superior hygienic conditions of a well-arranged health-resort. It implies change of air, of scenery, of surroundings, and of companionship, any or all of which may be the most essential to recovery. In those months of the year when attendance at mineral spring health-resorts is the greatest, the native beauty of such places, together with the charms of the season, render the change of the greatest value and of the greatest interest to the ailing. The usual proximity of such resorts to some body of water as the sea, a lake, or river, happily supplies a valuable adjunct in the way of varied and entertaining outdoor exercise, as rowing, fishing, etc., while the adjacent fields and forests afford entertainment for the artist, botanist, trapper, and hunter. In addition to all such the accessories of the modern bath-house include a gymnasium, ball-room, bowling alley, billiard-tables, tennis court, and other games and exercises which serve to supply grateful exercise of the body, and to divert the mind from gloomy introspection and entertain it in its engaging surroundings. By proper direction these all may corroborate the efficacy of the waters in a most agreeable manner, and adjuvate their curative action to an otherwise unattainable degree. By such means invalids deemed helpless or hopeless at home readily improve, and year after year return to the springs in health for a season of entertainment under the condi-

tions that restored them when ailing, more as a system of engaging amusement than as a process in therapeutics.

The adequate development of our mineral springs will prove a great auxiliary to the purpose of our profession. It will afford us suitable conditions for invalids convalescing from acute disease, at a time when proper care of such cases is of greatest importance, and when domestic conduct so often frustrates the object and result of preceding professional management. It will provide us with conditions adapted to the proper conduct of cases which are not to be benefited by drugs, and furthermore, for such as have developed an utter abhorrence for medicine in any pharmaceutical form. The invalid who recovers health under ordinary procedures of medicine, looks upon his physician as something more than the medium through which that greatest of blessings has been restored to him. The invalid who regains health by means of the waters of some mineral spring, feels a sentiment of gratitude welling up in his heart as the waters bubble up from the earth, free, pure, spontaneous, reflecting the bounty and wisdom of the great Dispenser.

SHOCK.

By F. E. BUNTS, M.D.,

PROFESSOR OF PRINCIPLES OF SURGERY, MEDICAL DEPARTMENT WOOSTER UNIVERSITY, CLEVELAND, O.

REGARDED as an abstract term, the word shock conveys to the mind an impression varying largely with the experience and personal observations of the individual. One has seen the sudden collapse and even death resulting from a blow upon the epigastrium, and recognizes it as shock. Another looks upon the victim of a railway accident and sees the crushed muscles and nerves and comminuted bones and is not surprised to find that here, too, is shock; and though the complete and sometimes fatal collapse which may follow unwelcome news, or even joyous tidings, may impress the same observer as something to be accounted for on psychical rather than physical grounds, yet he is forced to recognize it as one of the undoubted forms of shock.

Here, then, we have an occult agent whose baneful effects are shown in the most varied range of cases, and yet presenting such a characteristic group of symptoms that we are forced to believe it identical in each, and it is to this grouping of symptoms, all indicative of a profound impression upon the nervous, or vascular system, or both, that the name of shock has been given.

While some difference of opinion exists as to what portion of the nervous system is primarily affected, yet most are agreed, I believe, that shock is the result of a sudden and violent impression upon some part of the nervous system,[1] acting not alone, as some few would have us believe, upon the heart, but upon the entire blood-vascular system. And while it is not to be denied that many or all the organs of the body may sympathize in the prostration which ensues, and make this sympathy known by various symptoms depending upon their location and function, yet these disturbances are readily accounted for in view of the manifest disturbance of the nervous and circulatory systems, and must, therefore, be regarded as entirely secondary. The importance of bearing this in mind is made manifest when we come to consider the treatment.

It is to be regretted that the pathology of shock is still a debated question, though it is doubtful whether its elucidation would add anything to the means already used for combating it. Travers regarded shock as the result of nervous influence upon the heart alone, while Mansel-Moullin suggests that since the heart is but a higher development of the blood-vessels themselves, and since they are all co-ordinate parts of one system, they are all, probably simultaneously influenced in the same direction by a single stimulus, and Goltz's experiments on a frog lead us to believe that shock results from reflex paralysis of vascular nerves, especially of the splanchnics (according to Fischer), following traumatic concussion. The stasis in the abdominal veins and the afflux of a large proportion of the entire mass of blood into the dilated vessels of the intestinal tract, in consequence of the reflex paralysis of the intestinal vaso-motor nerves, cause anæmia of the brain, skin, and muscles, and thus leads to all the grave symptoms of shock.[2]

Naturally, but little can be learned of the workings of this obscure condition by post mortem examinations. Rigor mortis is usually present in cases of death from shock, no alteration can be discovered in the nervous system itself, and the condition of the heart varies with the mode of death. Where this has followed instantaneously upon the receipt of the injury or nervous impression the heart is found empty or nearly so, but when it has been delayed we shall ordinarily find the heart dilated and gorged with blood.

The causation of shock may, perhaps, be divided into exciting and predisposing causes, and under the latter head we are obliged to recognize certain idiosyncrasies of the person. Thus, every surgeon has had occasion to notice the excessive shock which so often occurs after apparently minor injuries in those who have led a life of debauchery and excess. It is well known, too, that age is an important factor. Thus in youth the shock is rapid and extreme, yet under favorable circumstances the reaction is equally rapid and pronounced. In old age, however, the shock is apt to be less pronounced, while the reaction, owing to the previously enfeebled and unfavorable condition of the patient, will often be slow, and many times, while apparently making a gallant fight for recovery, the weakened and over-strained heart will suddenly cease its action and the patient is gone, even while we are congratulating ourselves that he is rallying nicely.

Unusual dread of an operation, or a settled conviction that its outcome will be fatal, increases the likelihood of shock, as does also disease of important viscera, such as the liver or kidney, while exposure to cold, loss of blood, and various other debilitating agents not only predispose to it, but increase it when present.

The study of the exciting causes of shock is most interesting, extending, as it does, over the widest range of physical and mental impressions. Sudden and severe injuries causing contused and lacerated wounds are among the most frequent causes of shock, and, naturally, these are most often found in machinery, railway, and gunshot wounds.

Speaking in a general way, the nearer the wound is to the great centres of intellect, circulation, and digestion, the greater will be the shock sustained,[3] though the slightest injury—as the prick of a pin—may cause profound shock and death; and minor operations, such as the avulsion of a toe-nail, may cause alarming symptoms of shock.

The profound collapse following a sudden blow over the epigastrium is familiar to all, "but it is not a little singular that, in spite of the generally received traditions on such matters, and of the undeniably grave symptoms which are so notoriously produced, there should not be recorded one single case in which death has followed in a healthy man immediately upon a blow on the abdomen without injury to any of the subjacent viscera."[3] Sir A. Cooper relates a case of a man being struck in the abdomen by the handle of a wheelbarrow which he was pushing, and dying instantly, but no autopsy was held to prove that it might not have been due to some organic lesion of the heart, or possibly an actual injury of some of the subjacent viscera.

Falls upon the head or back or sudden blows inflicted in this region are peculiarly liable to produce symptoms of shock, though even here they must be carefully differ

[1] Savory.

[1] Rosenthal. [2] P. S. Connor. [3] Mansell-Moullin.

entiated from those which follow upon actual injuries of the brain and cord.

Injuries of, or operations upon, large joints are said to be frequent causes of shock. This I have uniformly observed to be the case in amputations at the hip-joint, but I have repeatedly performed, and seen performed, excisions of the knee and hip-joint without the slightest symptoms of shock.

Injuries of the testicle are often followed by severe shock, as is also division of the cord in its removal.

The passage of a renal or biliary calculus or the sudden onset of acute peritonitis may develop a severe, though not usually fatal, condition of shock. Agnew gives as one of the exciting causes the serous discharges of cholera. While the utter prostration brought about by these discharges bears a close relationship to that of shock, yet its origin and our conception of the pathology of shock would seem to exclude it from this category.

Even simple fractures and dislocations are often accompanied by shock, while it is an extremely frequent occurrence when the fracture or dislocation is compound instead of simple.

The marked depression following the sawing of a bone in amputations has been noticed by nearly everyone, and this is the more to be wondered at, since we have been led to suppose that the nerve distribution to bone is very small. It is, therefore, difficult to account for this shock upon a theory which requires for its development a marked and sudden impression upon the nervous system, unless it be that the peculiar laceration produced in the act of sawing acts as a causative agent.

Burns, especially those involving large surfaces, scalds, perforations of the bowels, extraction of a tooth, electricity, the removal of large tumors, may all produce shock, and that, too, of such a severity as to be followed by death.

The relief following a long and severe pain, as in a protracted labor, has produced fatal shock.

The evil effects of profound mental impressions are well known, the long-continued strain caused by delayed operations places the patient in a somewhat unfavorable condition, and deaths from shock following minor operations have been traced to this cause. Great fright is a frequent cause, and Desault relates a case in which a patient fainted and died while the surgeon was simply tracing with his finger-nail the line of incision upon the perineum, the patient being under the impression that the knife was being used. Similar cases are of comparatively frequent record.

As mentioned in another part of this article, welcome though unexpected news, as well as disagreeable news, as of the loss of dear friends or relatives or of property, may cause profound shock, and Savory gives a case in which permanent deafness has followed shock caused by sudden fright.

The symptoms, varying chiefly in degree, are somewhat constant, but "the most important of all is the reduction of temperature."[1]

Taking a marked case for example, the utter prostration of the patient impresses one at a glance, the lustreless eye, pale lips, shrunken features, drooping eyelids, cyanotic skin bathed in a cold beady perspiration, dilated nostrils, short and feeble respiration, all point at once to the nature of the case. The pulse is frequent and irregular, sometimes it is entirely absent, vomiting is frequently though not invariably present and cannot be regarded as particularly unfavorable. There is great muscular debility and relaxation. The urine is often retained, while the relaxation of the anal sphincters gives frequent rise to involuntary evacuation of the rectum.

The mental condition is of peculiar interest, differing, as it does, so essentially from that present in syncope. While it may be confused or bewildered, yet the patient can usually be roused by a sharp question, and will answer in a perfectly rational manner. Ordinarily there seems to be an inability to think or reason, yet at other times the intellect is almost preternaturally clear, and the patient continues talking to his friends and attendants up to the very moment of his death, saying good-by, arranging his worldly affairs even to their minutest details with an astonishing degree of judgment, consideration, and perception. Vision is dulled, the pupil is dilated and reacts slowly to light, and the entire cutaneous sensibility is greatly diminished though not usually abolished. The respiration is shallow and irregular, occasionally abnormally deep and of a sighing character, or accompanied by a constant moaning, and the patient is either absolutely prostrated and unable to move or he is continually tossing from one side to the other, begging for water, which he no sooner swallows than it is vomited, pleading for a change in position, and impressing the observer with the feeling that he is tired beyond description. The blessing of sleep is denied him, and if reaction does not occur the symptoms grow progressively worse, the restlessness and jactitation continue without interruption, a wild and frightful delirium comes on, in which, as in one case I have seen, the patient made repeated and determined efforts to choke himself to death, or, as is more frequently the case, imagines that he is surrounded by those who seek to do him bodily harm; and later these symptoms subside, the pulse cannot be distinguished, the eyes become fixed and filmy, and an occasional long-drawn gasping respiration is the only indication that death has not yet closed the scene.

The prognosis in cases of shock is, of course, variable, and depends so largely upon the individual case that it is difficult to make any but general deductions concerning it. The more pronounced the shock and the longer delayed the reaction, the more unfavorable must our prognosis be, and yet it is well known that the slightest injury may produce instant and fatal collapse. The loss of blood, however small in amount, is unfavorable, as is also old age or a previously enfeebled condition. Reaction may follow almost instantly upon the receipt of shock, or may be delayed for several hours or days and then terminate favorably.

The proximity of the wound to the centres of intellection, circulation, and digestion has a marked influence upon the prognosis, the danger being the graver the nearer the injury is to one of these centres, and when the intraperitoneal viscera are damaged the shock is greatest, due no doubt to their intimate connection with the semilunar ganglion.[1] The loss of power of swallowing, or the insensibility of the conjunctiva when touched, indicate a profound depression of some of the higher centres, and are, therefore, to be regarded as of grave import.

There is a condition supervening upon incomplete reaction which Travers has called prostration with excitement, and which is described by Savory as "marked at first by a dry heat of the skin, a flushed face and anxious expression, a rapid and bounding pulse, which is sometimes even sharp, but always easily compressed. The respiration is hurried and imperfect, with partial and irregular sighs. The tongue is tremulous; there is often urgent thirst, vomiting is a frequent and sometimes most obstinate symptom; there are occasional rigors. The languor or stupor of collapse is succeeded by restlessness, jactitation, tremor and twitching of the muscles, præcordial anxiety, often, but not always, delirium of various degrees, from occasional incoherence to wild and fierce excitement; this most frequently occurs, and is more marked, during the night. There is an entire absence of sleep, or it is partial and interrupted, and is succeeded by no relief; as the exhaustion increases the skin becomes covered with a cold and clammy sweat which is very often profuse. The face becomes pale and the expression haggard; the pulse innumerably rapid, irregular and fluttering, subsultus comes on; slight convulsions, coma, more or less profound, and death."

This condition of prostration with excitement is referred to by every author whom I have consulted, yet no-

[1] P. S. Connor.

[1] P. S. Connor.

where do I find any explanation for it except that it is due to incomplete reaction from shock. I have, therefore, made this liberal quotation from Savory's most excellent article, because the description is graphically true to nature and represents a condition which every physician and surgeon has met.

It seems obvious to me that a dry heat of surface, a flushed face, and bounding pulse are inconsistent with our conception of shock, whose most marked symptoms are a reduction of temperature, a cyanotic surface, and an almost if not quite imperceptible pulse. I doubt if Mr. Savory himself could give a more vivid and truthful description of septicæmia than that which he has portrayed here under the antiquated title of prostration with excitement.

I desire the more particularly to call attention to this subject, since nowhere have I found the slightest allusion to what I conceive to be its true nature. The very condition of shock, it seems to me, where dependent upon an injury, must predispose to septicæmia; the feeble circulation, the non-absorption of clots and broken-down tissue, or the open wound, neglected perhaps in the endeavors to bring about reaction, form a midus of infection only too apparent, and it is not astonishing, therefore, to see a case in which reaction is beginning progressively develop those symptoms which I believe to be septic in character and which have so long passed under the name of prostration with excitement. If this be incomplete reaction, it is because a new affliction has befallen the patient; he has recovered from shock but is suffering from an equally or even more dangerous malady, septicæmia.

We cannot be too careful in our acceptance of so called cases of delayed shock. It is usually in railway accidents that such a condition is developed. The description usually given is that a man is in a railway collision, suffers a great jar but escapes apparently uninjured. He even goes about assisting others and feels perfectly well until the following night, when he finds himself unable to sleep, grows restless, nervous, complains of various pains, and paralysis or coma and death may result.

In these cases there is, probably, a direct injury, such as the rupture of a blood vessel in the spine or brain, and the symptoms are due to a gradual extravasation of blood, as in the case of a man who fell from a height, striking on his head, in a few moments he was seen by a doctor, who examined him and failed to find any injury of a severe character, the man was perfectly conscious and able to stand up. He was sent home, a considerable distance, walking all the way, but upon his arrival at his house he was overtaken with alarming symptoms of collapse. The family physician and a consultant were called, the former insisted that it was simply shock and that the patient would recover, the consultant, however, diagnosed a cerebral hemorrhage. The autopsy revealed a large blood-clot in the brain. Could an autopsy be held in every case of delayed shock, I am satisfied that the cases reported would be much fewer than at present; for, as in the so-called concussions of the brain and cord, we would, I believe, in the vast majority of cases find an actual and perceptible lesion.

It is necessary to remember in rendering our prognosis, particularly in those cases consequent upon fright or other mental emotion, that a nervous condition is liable to ensue which may cling to the patient for years or perhaps till his death. Thus, in a case which I have seen, a woman was so frightened by being wakened from a sleep by a volcanic eruption that she has been troubled with almost persistent insomnia ever since, being unable to throw off a feeling of impending danger the moment she touches her bed.

Permanent deafness has followed shock from severe fright, and death may, of course, be the final result in this class of shock as well as in the case of actual bodily injuries. A marked fall in temperature is of unfavorable import, and when it reaches as low as 96° F. the result is, probably, necessarily fatal.

Among the favorable prognostic symptoms are increased strength of pulse with diminished frequency, greater regularity of respiration, disappearance of cyanosis, return of bodily warmth, voluntary motion, lessened irritability of the stomach, and it sometimes happens that the clearing of an overloaded stomach by vomiting will be followed by marked improvement in pulse and respiration. It must not be forgotten, however, that even after reaction appears to be established, relapses may occur, or an exhausted or over stimulated heart give way and death ensue.

In the treatment of shock we must keep constantly before us the condition of the pulse, respiration, and temperature, and our efforts be directed toward their improvement. Warmth, in the form of a hot bath,[1] or of hot plates, bottles, irons, etc., applied to the chest, abdomen, and extremities, is of prime importance. Even when life seems to be extinct, as in the case of a boy whom I had trephined for a crushed skull, reaction may sometimes be brought about by wrapping the patient from head to foot in a flannel blanket wrung out of water as hot as the hands can tolerate.

Stimulants are indicated from the start, and should be persisted in until reaction has begun, when they must be diminished, or administered in conjunction with nourishment either by the stomach, or when this will not retain it, by the rectum. I believe that the danger of over-stimulation is genuine, not on account of any fever which may ensue, but rather lest the enfeebled heart may succumb to the excessive demand made upon it. Of all the stimulants recommended the greatest hope is to be placed in brandy or whiskey, then digitalis, and then strychnine, all to be given hypodermically or by the rectum. Brandy and whiskey can be given in syringeful doses repeated very frequently, digitalis in ten-minim doses of the tincture or one sixtieth grain of the alkaloid, and strychnine in one-thirtieth or one-fifteenth grain doses, though not repeated so often.

Verneuil recommends injections of ether, at times an excellent stimulant. Carbonate of ammonia is valuable and may be given subcutaneously. Morphia and atropia are of great value when restlessness or delirium is present and should never be withheld in such cases.

Artificial respiration will often prolong and sometimes restore life and should be resorted to in suitable cases. Bleeding from the external jugular has been recommended,[2] where that vessel is found distended with blood, with the hope of relieving the engorgement of the heart and thus stimulating it to action, but it must be remembered that the paralysis of the heart is not due to its engorgement, but that this condition is rather dependent upon the paralysis, making the operation one of doubtful expediency.

Transfusion may, possibly, be of service when there has been loss of blood, in which case a weak saline solution will be quite as efficient as blood itself.

But little can be done to relieve the excessive irritability of the stomach, except to withhold absolutely everything from it. The patient's lips may be moistened, but nothing must be swallowed, and the extreme thirst may be slightly relieved by rectal injections of milk or water. A mustard plaster applied over the stomach sometimes seems to give relief.

There is one more important question to be considered before leaving the subject of shock, and that is the time at which operations should be undertaken when the patient is already in shock.

The general rule has been to operate when reaction has taken place; but I am satisfied that many lives have been sacrificed by this unmasterly inactivity of the surgeon.

Guthrie advises waiting till the pulse is beginning to regain some of its strength or till the patient is recovering his sense of pain. This is good advice if the waiting be not too long, but when the shock is profound and re-

[1] Hunter. [2] Savory.

action shows no sign of coming on after the lapse of one or two hours the operation had better be proceeded with; indeed, personally, I am in favor of administering stimulants actively for a short time, not to exceed half an hour, applying artificial heat to every available point and proceeding with the operation, the patient being placed completely under the influence of an anæsthetic, believing that the continued presence of a crushed and mangled limb tends to perpetuate the shock and renders septicæmia more probable than a prompt and rapid bloodless removal of the part.

ABORTING PNEUMONIA.

By OLIVER J. ROSKOTEN, M.D.,

PEORIA, ILL.

In view of the dreadful mortality from pneumonia at the p esent time, any suggestion bearing on treatment must be of interest to the medical practitioner. Limited though my experience be, I give it for the benefit of others in the hope that a trial by unbiased men may confirm the observations which I have made in a few cases.

In company with others I find that in acute lobar pneumonia (to which variety alone I now refer), after exudation and consolidation have taken place, I am nearly, if not quite, powerless to modify the course of the disease under any treatment now in vogue. This deplorable fact was very forcibly impressed on me some time ago by the loss from heart-failure of several patients in quick succession. After prolonged consideration I concluded that the period most promising of success in medication must be that preceding the exudation, *i.e.*, the stage of engorgement, that in which, beyond excessive vascularity and perhaps some moderate effusion, no great anatomical change has yet disturbed the recuperative powers of the lung threatened.

Can pneumonia be diagnosticated thus early?

I find that with reasonable certainty it can, at least if a severe chill and other symptoms to be named are accepted as sufficient. The chill comes on suddenly in a person previously of good health, is rapidly succeeded by stitch-pains in the side (or at some one of the less frequent points, *e.g.*, the lateral part of the epigastric region), by short, suppressed, locally painful, dry cough, somewhat accelerated, superficial respiration, elevated temperature and pulse-rate, with just noticeable dulness on percussion, respiratory murmur only tinged, as it were, with a tubular element, and a larger or smaller number of the ominous fine, crackling, crepitant râles audible on deep inspiration over the affected, but as yet limited, area at the base. The respiratory murmur here has lost its soft rustling character, is probably weakened by instinctive favoring of the opposite sound side, and there is exaggerated.

No one can deny the close relationship between the skin and the respiratory organs. Sudden suppression of cutaneous exhalation ordinarily is quickly followed by a catarrhal state of some portion of the air-passages, but the noxious influence developed through disturbance of the function of the skin may skip the less important and generally less resisting mucous membranes, and precipitate an inflammation in the deeper parts. Why this should occur we can only surmise. I take it as probable that the respiratory centre does not alone regulate the proper working of the main respiratory mechanism, but that of the subsidiary organs, especially the skin, as well. Its connections with the vaso-motor centres and nerves must hence be very complex, and one can understand how it must be exposed to frequent disturbances, I may say strains, on its integrity by abnormal influences reaching it from all the organs over which it presides.

I, therefore, regard acute nasal, laryngeal, bronchial catarrhs, and even acute croupous pneumonia, as so many manifestations of disturbed equilibrium between the respiratory and the vaso-motor centres, the localization of the affection depending on the intensity and other characters of the primary irritation, as well as upon the condition of the centre itself.

I determined to make some impression on this centre, be it good or bad, in the next case of pneumonia which should chance to fall into my hands, intending thus to gain an experience which would guide me to a rational therapeusis in other cases. I decided upon jaborandi, and soon had an opportunity to test it.

A fairly strong cattle-feeder in one of our distilleries suffered a prolonged wetting of the feet at his occupation, and was well soaked in a rain storm on his way home. He was that evening seized with a violent chill and all the symptoms enumerated above. A few hours later I made the diagnosis of acute lobar pneumonia, located at the right base. I placed him on the following inelegant mixture:

℞.	Extr. fl jaborandi	iij.
	Liq ammon. acet	j.
	Tinct. aromat	ij.
	Syrupi aromat	j.
	Aquæ dest q. s. ut ft.	iv.

M. Sig.: Tablespoonful every hour until thorough effect, then half doses every two hours.

I also ordered a hot pediluvium, and some mild counter-irritant. After two doses a most profuse diaphoresis ensued, which was prolonged by lessened doses of the medicine until I saw him next morning. The temperature, previously 103° F., was now found to be 98° F.; pulse, 80; some stitch-pains left, but general condition vastly improved. The local signs had not progressed. Little or no salivation. As there was no occasion for any change in medicine, the patient was directed to continue the remedy at longer intervals. My astonishment can be imagined when at the third visit, next day, I found the bird flown, himself and family to this day doubting my diagnostic acumen!

I have practised this method in four cases since then, with three signal successes, while the fourth, a failure, was probably an instance of mistaken diagnosis; anyway pleurisy was recognized a few days later, though pneumonia may have existed and been aborted.

I have confined this treatment to the earliest stage of the variety known as acute lobar pneumonia, and cannot speak of experience in any other, but during last year's run of la grippe I have freely used the remedy, with the result that I have not met with a single instance of pneumonia in the course of the epidemic, although the number of cases treated was quite large.

The theoretical objection to jaborandi or pilocarpine, on the ground of its being a depressant to the heart, I have met by the addition of aromatic stimulants, and in one or two cases, of digitalis. I aimed to have each dose absorbed in a little less than one hour, delaying absorption (if the stomach was empty) by having it diluted with a small quantity of hot water or tea, in order to avoid a too suddenly violent effect and attendant dangers; and for this reason also I have preferred the extract to the active principle. In very weak persons, and in those afflicted with fatty or valvular disease of the heart, the remedy in efficient doses is undoubtedly dangerous.

I have ventured to bring the remedy to the notice of the readers of the MEDICAL RECORD with some diffidence, as the number of cases on which the report rests is too small to convince even myself, but there is enough encouragement in the results observed to warrant a trial on a larger scale by those who enjoy more extended opportunities.

Registration of Midwives.—Efforts are being made in England for the proper education and registration of midwives. If the laws now pending are passed they will receive a thorough course of instruction, both didactic and clinical, receive diplomas, and be subject to punishment for malpractice.

POST-MORTEM CÆSAREAN SECTION.

By T. A. O'CALLAGHAN, M.D.,
WORCESTER, MASS.

Mrs. K— —, a multipara, aged thirty-six, had reached about the twenty-eighth week of pregnancy.

Some months before, symptoms had appeared which pointed to a serious organic trouble, and her physician had diagnosed cancer of the stomach. For weeks Mrs. K——'s sufferings had been terrible, so that she took daily from three to four grains of morphine, either by mouth or hypodermically, and this with only partial relief. During this time she was undergoing a slow process of starvation, so that, as death approached, she was almost a skeleton. In her moments of consciousness she said she felt the movements of the child, and, as she was a Catholic, desired earnestly that her child should receive the rite of baptism, and had made her husband and friends promise that an effort should be made in this direction.

Her medical attendant giving little or no encouragement, I was hastily summoned, and reached the woman's side about twenty minutes before her death. She was unconscious, breathing at long intervals, a pulse scarcely perceptible, and bloody froth issuing from her mouth. Her husband and a Catholic clergyman stood beside the bed, who told me of the promise given the dying woman, and of their wish that I should make the effort to save the child. I listened carefully for the fœtal heart, but was unable to detect any sound, so I had little to make me hope, save the last conscious words of the woman (spoken about half an hour before my arrival), that she felt life.

There was no time to call for assistance, or even send for instruments, but as I had my pocket case at hand, I decided to act. The patient's gasps came at longer intervals, and finally ceased, the pulse was lost, and the woman was apparently dead. I waited a few seconds and then, as there were no signs of life, began my work. I made a free incision from the umbilicus to the symphysis pubis, directly in the middle line. The abdominal parietes were so wasted that the uterus was at once exposed. Taking care that no part of the fœtus was near, I plunged the point of my scalpel into the womb. This was in a state of contraction, and on removing my knife, the fœtal waters gushed forth. With my fingers as a guide, I made an opening in the womb to correspond with that in the abdomen, and then without difficulty drew forth a small living child, who at once began to cry feebly. Tying the cord, I handed the babe to the nurse, and gave my attention to the uterus. The internal os was tightly closed, the placenta attached to the left side. The organ continued its contractions as strongly as after a normal birth, and was soon reduced to the size of the double fist, pressing out every drop of water and a considerable quantity of clotted blood.

Running my hand toward the stomach, I found the pyloric orifice one mass of cancerous tissue, and scattered through the intestines and mesentery several small masses of equal density. An external examination showed many small nodules about the size of a walnut on different parts of the body, particularly numerous on the breasts.

The child, a weak, puny little thing, not fully seven months, was baptized and lived three hours.

The duty of the physician is to save life when possible, and the success attending this case, which seemed so hopeless (because of the fearful agony the mother endured, the large quantity of morphine consumed, and the gradual wasting process she was obliged to undergo), should stimulate us to perform post mortem Cæsarean section in other cases which are far more favorable to the preservation of fœtal life.

L'Univers Médical.—A new journal, with the title *L'Univers Médical*, is about to appear in Paris, under the editorship of Dr. Séxéno, a pupil of Dr. Apostoli.

THE CALOMEL HABIT.

By J. T. HENRY, M.D.,
CHESTER, S. C.

In many sections of the South calomel is one of the most frequently used of household remedies, and has been so for a long time. In fact, it is given (by the laity) for almost everything, from a toothache to an ingrowing toe-nail. Hence, there would be nothing more reasonable than to expect some bad results to follow this indiscriminate and too frequent use of so powerful a drug as calomel. While there is rarely to be found chronic mercurial poisoning, there are many who might be said to be victims of "the calomel habit."

These persons rarely present themselves to the physician to be treated for this habit, but come under our observation suffering from other troubles, and their history develops the fact that they have been habitual calomel takers for years. They may tell you that they used to take calomel, but lately have found a substitute in the "Jones" or "Smith" pill, as the case may be; which, on investigation, is found to contain more or less calomel. They all say they take the drug or the pills "for their liver." And will give you almost the following array of symptoms:

"Every few weeks I have headache, cold and clammy feet and hands, sometimes the cold more marked in the tops of the feet than the soles; eat plenty, but do not relish the food; have a full feeling almost all the time; drowsy, but do not rest well at night; have bad taste in the mouth, especially in the morning; sometimes nosebleed; bowels may be constipated or regular; urine more or less scanty and high-colored; mind sluggish; sometimes night-sweats and swimming in the head; also a mean, heavy, creepy, indescribable feeling."

All these persons are more or less anæmic, though not emaciated, and some are even stout. In those whom I have examined the liver or spleen did not seem abnormal. Urine negative. I do not know whether they had any abnormal temperature or not, never seeing the patient during the attack.

When these patients feel the above trouble coming on, they take a dose of calomel, and, to use their own expression, "feel like a new person for a few weeks."

I have tried various other cathartics as a substitute for this calomel, but without effect beyond purging; and I have never known a full dose of calomel to fail to relieve all the symptoms. I have talked with older practitioners on the subject; some of them attribute the above symptoms to a "kind of malaria," and usually prescribe calomel (there it is again), followed by quinine, as they say with good results. These patients, though they may have been taking calomel more or less all their lives, cannot definitely say when the above symptoms began to show themselves. Assuming that their trouble is due to the calomel habit, where are the pathological conditions arising therefrom likely to be found? and what are they? Since my facilities in such research are limited to clinical observation, I shall expectantly refer these problems to more fortunate and more competent investigators, hoping to be either soon convinced of my error, or further enlightened.

Bromidrosis of the Feet.—Scott recommends the following:

℞. Biborate of sodium, }
Salicylic acid..... } āā 2 drachms.
Boric acid..... 30 grains.
Glycerin, at 86 F., }
Alcohol..... } āā 1 ounce.

Mix, and use as a wash three times a day.

This application is particularly useful in those cases where much maceration of the skin is present, and where remedies of other kinds have failed.—*Medical News.*

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & Co., Nos. 56 and 58 Lafayette Place.

New York, May 2, 1891.

THE CAUSE OF DEATH IN DIPHTHERIA.

BESIDES mechanical obstruction, death occurs by four distinct methods in diphtheria. These are considered at length in the *Gazette des Hôpitaux*, in an able and most interesting paper by Dr. Paul Huguenin. General poisoning, similar in its manifestations to the effect of a concentrated solution of some vegetable alkaloid like atropine or aconitine, may result fatally in five or six days. A more common cause of death in diphtheria is broncho-pneumonia, nearly one-half of the fatal cases succumbing to this complication, which is also the cause of death in three fourths of all fatal cases of pseudo-membranous laryngitis. Sudden death in diphtheria is due to infectious myocarditis or to bulbar paralysis.

Diphtheritic broncho-pneumonia appears toward the fourth or fifth day of illness, and causes death by atelectasis and obstruction of the alveoli; in other words, by asphyxia. It presents the clinical aspect of other secondary broncho-pneumonias. Characteristics that are somewhat special are these: Double broncho-pneumonia, pronounced atelectasis, and frequently hemorrhagic and blackish hepatized areas containing purulent spaces, together with lobular abscesses exuding some discharge. The bronchial tubes and alveoli are nearly always filled with fibrinous exudate, more or less liquid in consistency, and containing but few leucocytes. Apoplexies into the parenchyma, so frequent according to Millard, Peter, Bouchut, Labadie, Lagrave, Sanné, and Balzer, are particularly numerous in the posterior inferior portion of the lung. Hæmatosis is incomplete, owing to the inactivity of a large number of the alveoli, and the blood that is already surcharged with diphtheritic poison, carries to various tissues of the body nothing but noxious elements and dissolution.

Death by general diphtheritic intoxication is rare except during epidemics of diphtheria. The ravages of the disease then are lightning-like, similar to the sudden violence of Asiatic cholera. The urine contains large quantities of albumin, indican, and urobilin.

The blood is dark, thick, and the number of white corpuscles increased. There is enlargement and softening of the spleen, hypostatic pulmonary congestion, and slight congestion of the kidneys. In the typical case cited by the author no diphtheritic membrane existed in the larynx, though the hard palate, uvula, soft palate, the pillars of the fauces, and the nasal cavities were covered with thick, gray, irregular patches of exudate that gave a fetid odor to the breath.

The third way in which death occurs in diphtheria is through degeneration of the heart-muscle and valvular endocarditis. About twenty per cent. of fatal cases are due to this cause. The heart trouble does not set in early. It is a complication arising when convalescence seems to be established, though in children it may appear in four of five days after the onset of the disease, and collapse come on rapidly. There is a slight but scarcely noticeable recrudescence of fever, albuminous urine, and a slight systolic murmur due to functional insufficiency. These symptoms are followed by one of great clinical significance, *precordial pain*, just behind the sternum, and nearly on the median line. It bears some resemblance to angina pectoris, and has been compared to the feeling of an iron hand clutching and tearing the heart. Temperature is about normal or slightly subnormal. The uvula becomes paralyzed and fluids are ejected through the nose. The pulse-beats gradually lessen until there are perhaps thirty or thirty five only in a minute. The heart intermits occasionally, acting as if digitalisized, to use the expressive term employed by Traube and Potain. Lesions that an autopsy reveals are purely histological, with the exception of ecchymoses upon the anterior surface and apex of the heart not due to any pericardiac inflammation, dilatation of the organ, and the frequent presence of cardiac thrombus. Muscular fibres, connective tissue, vessels, and in fact every element of the myocardium, are invaded by the process of degeneration. The muscular fibre is friable, swollen, and highly granular here and there, with areas of granulo-fatty degeneration sometimes interspersed at intervals. Connective tissue presents the inflammatory lesions of proliferation and sclerosis. Giant cells abound, and fatty granulations take the place of the last vestiges of atrophied muscle-fibre. Diphtheritic myocarditis is at once parenchymatous and interstitial. The vessels, especially the small arteries, are the seat of "obliterating endarteritis" characterized by an accumulation of embryonic elements about the capillaries, and especially by an enormous thickening of the lining endothelium. The middle coat of the artery practically escapes, but the outer is profoundly affected. Thrombi are found within the walls of the left ventricle near the apex, and about the chordæ tendineæ of the mitral valve. In diphtheritic myocarditis, muscular tissue and the vessels suffer more than connective tissue, which renders the prognosis graver than in other forms of infectious myocarditis; for the heart may become paralyzed before the muscular fibres have time to undergo repair. Many instances during life of so-called peripheral or bulbar diphtheritic paralysis, are found post mortem to be cases of acute general myocarditis. Leyden has examined the cardiac nerves many times where death has been caused by myocarditis, and found t-em normal in every particular. The pathogenesis of diphtheritic myocarditis is as yet obscure. Death occurs from a stopping of the heart that is due to atrophy of muscular fibre.

While neuritis and myelitis of diphtheritic origin are generally recognized, fatal forms of visceral paralysis due to diphtheritic poison are comparatively rare, occurring only in two or three out of every hundred fatal cases.

Localized paralysis may cause death slowly through inanition, or suddenly by entrance of food into the larynx, or by paralysis of the diaphragm. There is partial or total abolition of knee-jerk in spinal cord implication, and attacks of aphasia and amnesia when the lesion is cerebral. Clinically, it is often very difficult to distinguish the symptoms of myocarditis from those of a bulbar paralysis. In myocarditis these symptoms are prominent: Soft pulse, insufficient cardiac contraction, muffled heart-sounds arythmia, dilatation of the heart, early appearance of syncope without much asphyxia, and intensity of collapse. In bulbar paralysis there are present excessive dyspnœa, asphyxia, polyuria, together with localized paralysis of the uvula, larynx, eyelid, of accommodation, and of the limbs. Macroscopically, the lesions post mortem are rarely well defined. The blood is dark, viscid, and toxic. There is softening of the spleen, some congestion of the liver and kidneys, slight inflammation of the pleura, and the serous membranes of the nervous system found filled with fluid. The histological researches of Charcot, Lépine, and Déjerine reveal a subacute myelitis implicating the gray matter on a level with the anterior horns. The nerve-cells are bright, nerve-fibres have disappeared, there is increase in anastomotic prolongations, and the vascularity is intense. The nerve-tubes assume a globular form, they are without myeline, and degenerate. These spinal lesions account for peripheral degeneration in the form of descending neuritis, owing to the destruction of nutritive centres. When bulbar paralysis exists the same lesions are found about the seat of origin of mixed nerves. Often there are hemorrhagic spots along the tract of the peduncular white fibres. Mendel attributes sudden death in diphtheria to hemorrhages of the nerve-centres. While this is not always the case, it is true that this particular mechanism is often the cause of death.

WHO OWNS THE PRESCRIPTION?

The *British Medical Journal* says that the question of the ownership of prescriptions has been settled by law in New York, Massachusetts, and a few other States. In all the cases it has been decided that the druggist is the owner of the prescription. The following is the text of a judicial pronouncement lately delivered on the subject: "The question before the Court appears to be simple indeed. A patient applies to a physician and receives from him certain advice for which he tenders a fee. The physician hands a piece of paper to the patient, purporting to be a written order for certain goods called drugs, which order is filled by a merchant or apothecary. The payment of the fee and the delivery of the goods or drugs terminates the verbal contract, and the druggist keeps the prescription as an evidence that the contract has been fulfilled so far as he is concerned. The druggist can, if he so please, on his own responsibility renew the drugs, for he is but a merchant, and has a perfect right to sell drugs to anyone and in any shape. He need not keep the prescription, nor is he bound to give a copy; but should error occur, he has no protection in case of suit." It is said that some time ago a decision in the same sense was given by the judge of a court in Berlin.

The *Journal* adds in comment on the above: The opinion here quoted does not seem to be sound; the patient receives the prescription in return for the fee which he gives to the physician, but he is under no obligation to give up the prescription to the druggist. He is bound to show it to him, or else he cannot get the drugs he wants, but the document belongs to the patient, who could if he chose enforce its return by action. A publisher might as well claim to keep an author's manuscript as evidence that he had correctly printed it, as a druggist to keep the prescription as evidence that he had fulfilled his contract to supply the drugs ordered of him. Such a claim on the part of a tradesman against his customer is not recognized as valid by English law, whatever may be laid down by the courts of other countries.

In a paper recently read by Mr. Joseph England before the Philadelphia College of Pharmacy, this question of ownership was discussed, the writer taking decided ground in favor of the druggist being owner of the prescription. He cited a long legal opinion furnished by an experienced lawyer, Mr. R. C. McMurtrie, in support of his view.

If the patient is the owner, says Mr. McMurtrie, "he may at any time within six years demand the paper, and if it is not surrendered, sue as for a tortious conversion of his property. If he can't do this he certainly has no title." Various instances are cited also showing the necessity to the druggist of owning and keeping the prescriptions.

AN AMERICAN MEDICAL TEMPERANCE SOCIETY.

A British Medical Temperance Association was organized in 1876. It has now over five hundred members, and has done excellent moral and hygienic work. Dr. N. S. Davis, of Chicago, proposes to organize an American Medical Temperance Society, and he announces that if medical men will send him their addresses he will provide a time and place for their meeting and organization at Washington during the week of the next annual meeting of the American Medical Association. The temperance movement has always had many more active supporters in America than elsewhere, and we have no doubt that Dr. Davis can easily succeed in his very desirable project.

NEW "CURES" FOR CANCER.

Several years ago Dr. J. Mortimer Granville announced, in the *Lancet*, that he had devised a method by which he hoped to cure some cases of cancer at least. He now, in a recent issue (April 4th), renews his statements upon this point, and adds that several patients have been cured. He unfortunately does not give the technique of his method, but says that it consists in the internal use of periodo-hydro-methyloxy chinolin (a substance resembling thallin) and the local injection of papain.

Professor Adamkiewicz, of Cracow, has recently announced that he has also discovered a method of successfully treating cancer. His method has been tried in three cases of epithelioma of the lip in the clinics of Professors Obalinski and Korezynski, and, although sufficient time has not yet elapsed to allow of a definite judgment being formed as to its value, the effects have been suffi-

ciently remarkable, in his opinion, to justify further trial. The size of the growth has been markedly diminished, and the enlarged glands in relation therewith have become much smaller; even "entire disappearance" is spoken of. Coincidently with these local effects the patients have gained weight.

Professor Mikulicz, of Vienna, has found that good results have been obtained in cancer by the use of pyoktanin; and the "dyeing" method has also been found to be apparently useful by several surgeons in this city.

Dr. Inglis Parsons still asserts that strong galvanic currents arrest, and perhaps cure, some cases of cancer.

Dr. George Dean has apparently proved that Russell's micro-organism of cancer is not a micro-organism and not characteristic of cancer (*Lancet*, April 4th), but this bacteriological set-back does not at all interfere with the present "boom" in cancer cures.

ANTISEPTICS IN RHYME.

If we are not greatly mistaken, that eminent poet and builder of lofty and sustained iambics, Dr. G. M. Deney, of Keytesville, Mo., has undergone a change of heart. Not long ago he was bitterly epigrammatic and antagonistic to all forms of microbes and all the conclusions of microbic pathology. In a more recent contribution to rhyme and surgery, however (*Journal of the National Association of Railway Surgeons*), in a truly scientific spirit, he admits the bacteria and poetizes antiseptics in a most helpful manner.

We cannot give our readers all of the poem, but it would be unkind to deny them the truly Hudibrasian description of the way in which the surgeon should prepare for an operation. Dr. Deney says, and truly:

"Although in details we may vary,
Some plan is necessary,
To heal a wound by first intention.
Some needful rules I here will mention.
The surgeon first his clothes should doff,
His coat and vest and shirt pull off.
In rubber apron should be drest,
Extending from the feet to chest.
Scrub well his hands with soap and water,
If he don't he ort'r.
The patient sponged 'till all is sweet,
Is laid upon a rubber sheet.
The towels all on chairs are hung,
And water by the waiter brung.
As vicious germs will always breed,
Some antiseptic he will need.
As bichloride is dangerous stuff,
One in two-thousand is enough.
Carbolic acid one one-thirty,
Will keep the knives from getting dirty."

There is assuredly an undercurrent of truth and sense in the foregoing, and we feel sure that Dr. Deney is an informed, intelligent, and successful practitioner; but we consider that his recommendation that the surgeon should take off his clothes before operating as both radical and indelicate. Even the suggestion that he pull off his shirt seems to be carrying things too far, especially in institutions where co-education prevails. Nothing could be neater or more forcible, however, than the injunction to

"Scrub well the hands with soap and water,
If he don't he ort'r."

Such maxims have more than a surgical and technical value. They can be taken to heart by the whole human race, which should turn its face gratefully toward Keytesville, Mo.

A final word of caution is given by Our Poet against the practice of interfering with dressings after they are once applied.

"When once a wound is dressed
It must be left at rest,"

a sentence which contains both rhyme and reason, besides being orthographically correct. This point is further emphasized:

"Success alone inures to he
Who never yearns the wound to see.
The cortege of a med'ling ape
Are hearses, obsequies, and crape."

We can well forgive the slight dislocation of grammar in the above for the sake of the important lesson that is taught.

We join the Muse of Song in tendering to Dr. Deney the assurances of our distinguished consideration. Long may he cut and sing.

A NEW TYPE OF SPINAL DISEASE.

An article in the *Journal of Nervous and Mental Diseases* for March, 1889, by Dr. J. J. Putnam, and one in the April issue of the same journal, by Dr. C. L. Dana, furnish material, it is thought, for a new type of spinal disease. This new type belongs to the class of progressive degenerative diseases, such as locomotor ataxia and the other scleroses. In it the cord is affected with a "combined sclerosis" of the lateral and posterior columns. This sclerosis runs a somewhat rapid course, and is associated finally with a softening of certain levels. Some years ago Dr. Gowers, of London, described a disease which he named "ataxic paraplegia," in which there is also a combined sclerosis of the lateral and posterior columns; but this is a very chronic disorder, and in most cases is only a modification of locomotor ataxia.

The new type of spinal cord disease of Putnam and Dana is stated to be different, both clinically and pathologically, from ataxic paraplegia, hereditary ataxia, and other forms of combined system diseases of the spinal cord. The symptoms are summarized by Dr. Dana as follows:

The disease begins generally with numbness of the extremities, followed by progressive enfeeblement. Great emaciation and anæmia are present, and there is often an obstinate diarrhœa. No paralysis of any special groups of muscles occurs, but there is a progressive weakness, and finally paraplegia sets in.

There are in some cases anæsthesia and ataxia, but spastic symptoms with exaggerated knee-jerk and ankle-clonus are the more common.

Lancinating or girdle pains are very rarely present.

The arms are affected, but less than the legs. The vision and other special senses and speech are not disturbed. Mental symptoms approaching dementia were observed in the terminal stage in one case.

The general course is that of a rather rapidly progressive affection, causing numbness and sometimes anæsthesia of the extremities, especially the lower, with progres

sive weakness of the extremities. This is associated with anæmia, general muscular emaciation, and diarrhœa, the disease ending in a paraplegia and death from exhaustion.

The course of the malady is relatively rapid, averaging two years.

A peculiarity of it seems to be that it affects women oftener than men, and also that it occurs after middle life. In these respects, as well as in its subacute course, it differs from such diseases as locomotor ataxia or lateral sclerosis.

The cause of the trouble is not certainly determined. It does not seem to be due to syphilis or alcoholism. The patients had, however, an extreme anæmia in most cases, and also a natural or acquired neurotic constitution. Lead-poisoning is suggested as one factor.

The disease is one which is probably rare, but which, if observed by others heretofore, has probably been diagnosticated as myelitis or multiple neuritis. It is not, however, an inflammatory disease in any sense, and it can, we are told, be usually distinguished from the diseases mentioned as well as other types.

On account of the difference in prognosis and treatment, a diagnosis of such cases is greatly to be desired.

Treatment has heretofore been futile, though temporary improvement may occur under iron and roborant measures. Possibly an early recognition of the malady might enable one to stay its course.

CHEAP DOCTORS.

The American degree of doctor of medicine is too cheap. So thinks John H. Rauch, M.D., the able secretary of the Illinois Board of Health. Excepting Belgium this is the only country in the world where the license to practise and the M.D. degree can be obtained with only three years' study. Even could American students learn more rapidly than foreigners, as is often asserted, the former's preliminary education is so much inferior to the latter's that such an assertion applied to medical students becomes erroneous. With many American students the habit of application and of scientific and logical thought is not formed until the medical college is entered. The American degree is also cheap in a pecuniary sense. Here are some of Dr. Rauch's statistics and sensible deductions.

The average fees for the eleven London schools are, exclusive of the examination fees, £118 5*s.*; for the provincial schools £98. In addition, each student has to pay from 10*s.* to £5 matriculation to one of the degree-granting bodies; from £1 to £15 for the first examination; from £1 to £10 for the second; from £2 to £15 for the first degree or qualification examination, and from £5 to £15 for the second qualification examination. In some of the colleges in the United States all the fees do not amount to $200, and in at least one the whole course of study and the diploma can be had for $138. A careful study of the systems of education in foreign countries shows that a large part of the time and much of the money are spent in acquiring practical knowledge of medicine by actual work in hospitals, and this work is tested by practical examinations, such as are too infrequent in this country. Too often the American graduate attends his first case of labor after he begins practice. Such is not the case abroad. The same is true of other conditions that physicians and surgeons are called upon to treat. The defects in the American system of medical education, then, are: 1. Too little preliminary education, and thus a lack of ability to grasp scientific principles. 2. Too much didactic work by the teachers. 3. Too little clinical work by the students. 4. Too few tests of practical work. 5. Too short a time of actual work and study. Increasing the preliminary qualifications and lengthening the time of study will remedy the other defects, and will kill off the useless and low-class schools.

News of the Week.

The American Medical Association.—As has been previously announced, the forty-second annual meeting of the American Medical Association will be held in Washington, D. C., on Tuesday, Wednesday, Thursday, and Friday, May 5th, 6th, 7th, and 8th, the first general session being opened at 11 A.M. The general addresses will be as follows: Medicine, Dr. E. L. Shurley, of Detroit, Mich.; Surgery, Dr. Joseph M. Matthews, of Louisville, Ky.; State Medicine, Dr. W. L. Schenck, of Topeka, Kan. Among the questions that will be brought to the consideration of the delegates will be the change of the day of meeting; the abolition of the committee on State medicine; the formation of a section on dietetics and physiology; the granting to permanent members all the rights of delegates; the recognition of all State and district societies, affiliated to the Association and having a membership of one hundred or more, as branches of the American Medical Association, as a result of which the members of such societies will enjoy all the rights and privileges of delegates; and finally, the removal of the publication office of the *Journal* from Chicago to Washington.

Carl Rudolph Braun, Professor of Obstetrics and Gynecology in the University of Vienna, etc., died March 28th, aged sixty-nine years. Carl Braun graduated in Vienna in 1847, and after a short time spent in the pathological laboratory became assistant in obstetrics under Klein. In 1853 he was called to the Tyrol as professor, where he, in 1857, published his text-book of obstetrics At about this time, after declining the chair at Zurich and at Pavia, he came back to Vienna, on the death of Klein, as professor of the obstetrical clinic, and at the same time devoted himself to the establishment of a gynecological clinic in connection with the lying-in department. From this time until his death Braun has been one of the most prominent figures in the medical life of Vienna, and in obstetrics has attained a world-wide reputation.

A Pan-American Medical Congress.—It is proposed that an International American Medical Congress be held in Chicago at the time of the Columbian Fair.

Major Alfred A. Woodhull, Surgeon U. S. A., is detailed to represent the Medical Department of the Army at the International Congress of Hygiene and Demography at its meeting in London, England, from August 10 to 17, 1891.

The Memphis Hospital Medical College held its annual commencement March 27th, and graduated a class of eighty-nine.

Dr. Paul H. Kretzschmar, Supervisor at Large of Kings County, died suddenly on April 27th at his home, 402 Washington Avenue, Brooklyn. His death was due to Bright's disease, but it was hastened by an attack of the grip. The dead official was born in Dresden in 1847. Subsequently he was graduated from the University of Berlin, and came to this country in 1869. He married here and opened a drug store in 1872. While engaged in that business he studied medicine at the Long Island College Hospital, and became a physician in 1877. He built up a profitable practice. Dr. Kretzschmar entered politics in 1884 as a Cleveland Democrat. He was one of the organizers of the Young Men's Democratic Club. Socially Dr. Kretzschmar was very popular, and was a member of the Oxford, Brooklyn, Hanover, Germania, Constitution, and German Press Clubs.

The American Medical Editors will meet at Washington on May 4th, and discuss the report of the committee upon the following questions: "What has been the real effect of the rapid increase of free hospitals and dispensaries in all the large cities, ostensibly for the care and treatment of the sick poor, during the last twenty-five or thirty years; first, upon the poor, and second, upon the people as a whole? What has been the effect upon the real medical interest of the medical profession? What are the duties of those controlling the medical press relating to the foregoing questions?"

Dr. Richard Gundry, Superintendent of the Maryland Hospital for the Insane at Spring Grove, Baltimore, died at that institution on April 23d. His death was caused by Bright's disease and complications. Dr. Gundry was one of the best known experts in diseases of the mind in this country. He was born at Hampstead, near London, England, in 1829, and was educated in a private school at Hampstead. He came to America in 1845 and studied medicine at Simcoe, in Ontario, with Dr. Charles W. Covernton. Entering Harvard College, he took all the honors, and was graduated from the medical department in February, 1851. He then removed to Rochester, N. Y., where he practised medicine until 1854, when he removed to Columbus, O. He entered the Ohio Lunatic Asylum in the year following as assistant physician.

Women Physicians and the Liquor Business.—At the annual dinner of the Alumnæ Association of the Woman's Medical College and Hospital last week, a move was made toward securing for women the right to vote for Excise Commissioners in New York. About eighty women practitioners were present. Dr. Julia E. Bradner, of Middletown, Orange County, gave an address on "Woman in the Medical Profession," in which she opened the subject. She said, closing her address: "Let us never forget that the woman physician represents the pioneer woman in a pioneer government, and if our country is to continue a model republic its women must represent the highest type of women. Napoleon said: 'The future destiny of the child is always the work of its mother,' and we women physicians demand of the State of New York that it grant its women the same voice in the health and morals of its children that they already have in their education; that the women who are privileged to vote for School Commissioners be also allowed to vote for Excise Commissioners. We do not ask it in the interest of universal suffrage, prohibition, or of either political party. We ask, rather, that it be removed entirely from politics. We ask it as women in the name of the mothers, wives, sisters, and daughters, and as physicians, knowing that its rum-soaked children are the very incubators of disease. Surely, the Empire State will be safe if it trusts the health and morals, as well as the education, of its children to women."

The Massachusetts Medical Registration Bill has failed to pass. The opposition to the bill, according to the *Boston Medical and Surgical Journal*, was based partly on the feeling which had been apparently fomented, that the bill would be in some way of advantage to the Harvard Medical School.

A Proposed International American Medical Congress.—Dr. Charles A. L. Reed, of Cincinnati, purposes introducing at the Washington meeting of the American Medical Association resolutions to the effect that an invitation be issued to the medical profession in the various countries of North and South America, to hold a congress in the United States.

New Medical Colleges in Chicago.—An institution to give instruction in medicine and surgery, to be known as the Illinois School of Medicine, was recently incorporated, with a capital stock of $10,000. The incorporators are physicians. It is said that Chicago is to have a new institution known as the German College of Medicine and Obstetrics, with a capital stock of $50,000. The college will have ten professors, four to teach in the English language and make a specialty of obstetrics; the other professors will teach in German and have charge of the regular college course. Five years of study will be required before a diploma is granted. It is thought that eventually a college building will be erected near Humboldt Park. The money required will be provided by the incorporators, and by the professors who are to occupy the chairs in the college. The professors have not yet been selected.—*Medical News.*

Dallas, Tex., hopes to have a new $100,000 hospital "It is God's work," says the *Texas Health Journal*, but we should judge from the context that the local politicians have a good deal to say about the matter.

Resignation of Dr. Da Costa.—Dr. Da Costa has resigned the chair of Practice of Medicine in Jefferson Medical College. The reason for his resignation, says the *Medical and Surgical Reporter*, is that Dr. Da Costa desires to withdraw from the cares and burdens of the professorial position, in order to have more leisure for his large practice. For twenty-seven years, in one capacity or another, Dr. Da Costa has been identified with the Jefferson Medical College, and it is not too much to say that its present exalted position is, in a large measure, due to the admirable manner in which he fulfilled the duties of his position, and to the lustre of his reputation, which has so effectively supplemented that of Meigs, Gross, Pancoast, and others.

Dr. Charles W. Dulles has resigned the editorship of the *Medical and Surgical Reporter*, which he has ably conducted for the past four years.

The German Surgical Congress was opened in Berlin April 1st. The first two days were devoted chiefly to discussions upon tuberculosis. Bergmann spoke despondently of tuberculin, Koenig was more hopeful, and Schede declared it to be "an invaluable weapon." Senger, of Krefeld, spoke on the efficacy of iodoform injections in surgical tuberculosis. He believes that he has discovered the reason why the treatment of articular tuberculosis with iodoform is sometimes successful and sometimes not. It is not the iodoform itself, he thinks, which causes the cure, but the formic acid produced by its oxidation. If oxidation take place iodoform acts, but not otherwise. On the strength of this theory he has injected formate of soda and formic sulphuric ether with good effect. The last speaker was Dr. Rubenstein, who communicated the results obtained by Professor Schueller, of Berlin, in more than one hundred cases of local tuberculosis of the skin, the glands, the bones, and the joints by a combination of internal treatment with guaiacum, partly with surgical treatment, partly (in tuberculosis of the joints) with injections of iodoform glycerine into the joints and directly into the tubercular soft parts and bones belonging to the joints. Of fifteen cases of articular tuberculosis treated in this manner, nine are already permanently cured. As regards the other forms of local tuberculosis, Schueller's results are of special importance, because in many cases of cure there has been no relapse, though years have passed since the close of the treatment. Some cases have been observed for more than eight years. On the second day Liebreich's treatment by canthardinate of potash was considered and condemned. Among other communications was one by Schuchardt, of Stettin, who reported a case of extirpation of a tubercular kidney, and several cases in which lupus had at first been supposed to be cured and had afterward reappeared, were shown. Urban, of Leipsic, showed a case of extensive lupus of the left temple, cheek, and neck, which had been completely cured by extirpation, followed by transplantation of healthy skin. Dr. Benda showed a case of traumatic cortical epilepsy, which had been cured after extensive osteoplastic trepanning and the removal of a piece of the cerebral cortex. Koenig then spoke on the osteoplastic treatment of congenital dislocation of the hip-joint. He had tried to obtain a permanent cure by splitting off a plate of bone from the pelvis and forming an artificial socket to hold the condyle firmly. He could not report definitely on the result, mainly because two of the children first operated on had died of infectious diseases.

The Kansas City Medical College.—This school did not graduate twenty three students, as was announced in our issue of March 18th. The school has a three-year course, and has been opened but one year; consequently there were no graduates at this time, but there are twenty-three matriculants attending lectures.

The Medical Society of the State of North Carolina will hold its annual meeting at Asheville on May 26, 27, and 28, 1891.

The American Medical College Association will hold its next session at the Arlington Hotel, Washington, on Monday, May 4, 1891, at eight o'clock in the evening.

Medical Assistants in New York State Hospitals for the Insane.—An open competitive examination of candidates for junior assistants and female physicians in the State hospitals for the insane will be held by the State Civil Service Commission, at the Capitol in Albany, June 11th. Candidates must be residents of the State, and must have had one year's hospital experience, or three years' experience in the general practice of medicine.

The Chicago Presbyterian Hospital.—A considerable addition to the present large buildings of the Presbyterian Hospital is being planned, and work will be commenced early. The hospital staff is also being strengthened by the addition of new members. Again, an obstetrical ward is soon to be formed, which will be a valuable adjunct to the institution.

The Influenza in Chicago.—The recent epidemic, which prevailed for a period of about a month or six weeks, and which indirectly produced the highest mortality known in the history of the city, has now very decidedly abated. The police and street railway forces of the city were considerably crippled during the height of the affection. Immense quantities of phenacetine were prescribed, this seeming to be the favorite remedy, and to have in great measure supplanted antipyrine in professional and popular favor.

"The Climatologist" is the name of a new journal which is announced to appear in July of the present year. It will be devoted to a consideration of all questions relating to climatology, mineral springs, diet, preventive medicine, race, occupation, life insurance, and sanitary science. The editors will be Drs. John M. Keating and J. P. Crozer Griffith, of Philadelphia, and Charles F. Gardiner, of Colorado Springs. The editorial office will be located in the latter city.

Another Name for the Influenza.—A physician of this city recently received a note from one of his patients asking him to call, as the writer was "wory seck of the Grab."

The Proceedings of the Tenth International Congress will be distributed to the American members, according to the announcement of a German paper, by the Smithsonian Institute in Washington.

Gift to a Hospital.—George M. Pullman has given to the St. Luke's Hospital, Chicago, what is probably the most complete hospital ward in the world. He gave orders that it should be the best and most beautiful place in the world for sick and crippled children. The ward consists of two rooms, and has accommodation for twenty-two little ones.

Still Another "New Treatment of Tuberculosis."—Medical circles in Paris are greatly interested in a new treatment for tuberculosis discovered by Germain Sée. Professor Sée's treatment requires the patient to pass four or five hours daily in a chamber where his or her entire body, with the exception of the head, is compressed in linen bandages saturated in a solution of creosote. The pressure is then increased until it reaches an atmosphere and a half. Excellent results are already claimed for this alleged "new discovery."

North Carolina State Medical Society.—The thirty-eighth annual meeting of the North Carolina State Medical Society will be held in Asheville, May 26th, 27th, and 28th.

New York Polyclinic.—Dr. Edward A. Ayers has been elected to the Professorship of Obstetrics in the New York Polyclinic.

American Academy of Medicine.—The Sixteenth Annual Meeting of the Academy will be held at the Arlington Hotel, Washington, D. C., on Saturday, May 2, and Monday, May 4, 1891.

The New York College of Pharmacy held its Sixty-first Annual Commencement, at Metropolitan Opera House, Monday evening, April 27th.

Studying Disease in Domestic Animals.—The Board of Regents of the University of Nebraska have called Dr. F. S. Billings to take charge of the work of investigating the diseases of domestic animals, and have appropriated over $10,000 to cover the expenses of the undertaking for the first year. This action was taken at the instance of a committee representing the live-stock interests of the State. Dr. Billings's staff will consist of a chemist and an assistant, the latter to receive a salary of $1,200, and also a corps of volunteer workers. These volunteers will be assigned to original and practical work, the results of which they will be at liberty to publish, and will receive credit for as their own.

Michigan State Medical Society.—The twenty-sixth annual meeting will be held in Saginaw, Mich., Thursday and Friday, June 11, and 12, 1891.

The Medical Association of the State of Alabama.—This Association has just closed an important meeting, held April 14th, 15th, 16th, and 17th, at the city of Huntsville. About one month ago the Medical and Surgical Society of Montgomery sent a circular letter to each County Medical Society in the State, asking that they instruct their delegates to the State Convention to vote for the repeal of a special rule passed by the Association many years ago, prohibiting, in strong terms, consultations with homœopathic and eclectic physicians. The resolution to repeal this ordinance provoked a warm discussion, but it was passed by a two to one vote. The Association still abides by and subscribes to the Code of Ethics of the American Medical Association, but many of its members contend that they are at liberty to consult, under a liberal construction of this Code, with all legal practitioners of good standing, and the repeal of this special iron-clad State ordinance is supposed to have been passed to allow such individual members as desire to exercise their discretion in the matter of consultations to do so. The following officers were elected for the ensuing year: *President*, Dr. B. J. Baldwin, of Montgomery; *Senior Vice-President*, Dr. W. C. Wheeler, of Huntsville; *Junior Vice-President*, Dr. J. Huggins, of Newberne; *Orator*. Dr. B. L. Wyman, of Birmingham; *Members of the State Board of Health for Five Years*, Drs. Peter Bryce and James Searcy, of Tuscaloosa; *Treasurer*, Dr. W. C. Jackson, of Montgomery; *Secretary*, Dr. T. H. Means, of Montgomery. Next place of meeting, Montgomery.

Death of Dr. J. H. Ward.—Dr. James Henry Ward, of Brooklyn, died on Wednesday, April 15th, of cerebral hemorrhage, at the age of sixty-seven. He was graduated from the New York University of Medicine in 1848, and after practising a few years he went to Berlin, and under Professors Virchow and von Langenbeck studied pathology and histology, and returning to Brooklyn again, commenced general practice, in which he was actively engaged up to the day of his death. From the humblest beginning he rose by his own unaided efforts to the position of the most prominent physician in the Eastern District of Brooklyn. He was an able practitioner, an admirable teacher, a helpful consultant, and a most profound scholar. To a well-cultivated mind he added a kindness of manner and a sympathy in the very expression of his face that gave hope to his patients, and inspired confidence in their friends. A character too noble to indulge prejudice or gratify jealousy, he leaves no one to speak ill of him. The influence of a well-spent life will not die with him. As a practitioner of medicine he was noted for his scientific attainments, cheerful disposition, and affectionate consideration for the younger struggling members of his profession.

The Corner Stone of the Langenbeck House, in Berlin, was laid on April 4th, in the presence of representatives of the Emperor, the German Surgical Society, and the Berlin Medical Society, and of many of the members of these societies. The address was made by Dr. Thiersch, President of the Twentieth Congress of the German Surgical Society. In the stone were enclosed the deed of foundation, volumes of the Proceedings of the German Surgical Society, and of the Berlin Medical Society, for 1890, a copy of the Langenbeck memorial oration, delivered on April 3, 1888, by Dr. von Bergmann, the copy of a pamphlet entitled "Die letzte Stiftung der Kaiserin Augusta," and a picture of Langenbeck.

"Preshure of the Bowls upon the Womb."—The following medical opinion upon an applicant for life insurance was received a few days ago by one of the New York companies from an out-of-town examiner: "I find the abdominal mustels relaxed, so much so that they allow the bowls to fall low in the pelvis, and by so give preshure upon the womb, rectum and by the presher, imped the free flow from the femeral vein &c &c now by this relaxation of the abdominal mustels of corse the upper organs are unsupported aspetialy on the right side such as liver and right lung. This giving an allgone fealing &c. I am speaking of Mrs. Nelly D——."

Death of Dr. Philip Leidy of Philadelphia.—Dr. Philip Leidy, ex-port physician and a well-known practitioner, died at his home in Philadelphia, April 29th, of pneumonia, aged fifty-three. Dr. Leidy was a brother of the eminent physician and naturalist, Dr. Joseph Leidy, who now lies dangerously ill and who is not expected to survive. Dr. Leidy was a member and ex-President of the Medico-Chirurgical Society, and also a member of the Northern, Philadelphia County, and State Medical societies, and of the American Medical Association. He was the author of various reports to the Medical and Surgical Department of the United States Army, and of papers read before medical societies, and has made valuable contributions in other ways to medical literature.

Clinical Department.

A CASE OF ACONITE POISONING.

By M. A. WARRINER, M.D.,
BRIDGEPORT, CONN.

Mr. G. N ——, American, aged sixty, by occupation a stable-keeper, hurriedly entered my office, December 19, 1890, at 9.10 P.M., saying that he had taken some tincture of aconite by mistake some ten or fifteen minutes before. I subsequently learned that he had taken it at 8.40 P.M. He had felt no tingling or numbness of the extremities. Pulse full and 80 to 85 per minute. As is too frequently the case, two bottles of medicine had been set side by side, one a bottle of cough syrup for himself, the other the bottle of tincture of aconite which he had been giving to his horses. Just before starting for home he had hurriedly taken up one of the bottles and poured down two good swallows, when he discovered his mistake. As near as could be told by parties who had noticed the bottle before he took it, at least four teaspoonfuls were taken. He first went to a drug store near by, where two or three ineffectual attempts were made to excite vomiting. When he arrived at my office I immediately gave him about fifteen grains of sulphate of copper and two glasses of lukewarm water. He vomited in five or six minutes, so that I did not use a stomach-tube. He vomited a large amount, no less than two quarts, and probably more. Immediately after vomiting he began to feel the characteristic numbness and tingling. The tingling began in his tongue, then the lips were affected, and it rapidly spread backward and downward till the whole region of the lower jaw was affected, then extended upward on to the face and cheeks. Said his face "felt terribly drawn." He began to feel the tingling at the finger-tips at the same time that the face was affected. As soon as the stomach would retain it, I gave him 15 minims tincture digitalis in an ounce of wine. After he had vomited and the tingling began, he complained of being intensely cold. At 9.40 he got into his buggy and drove me to his house, which was only a short distance. I had him go to bed at once, and hot bottles were packed around him and plenty of blankets over him. He was given some hot whiskey, which was soon vomited. He was then given between two and three ounces of whiskey per rectum. As his pulse grew gradually weaker, I began to give whiskey hypodermically. About 10.30 he complained of not being able to see, and had two tonic convulsions. By this time the pulse had become imperceptible at the wrist, and Dr. Blodget was called in consultation. Hypodermics of whiskey were continued. The bowels began to move rapidly, but he was not allowed to sit up or raise his head to vomit, which he attempted several times. About 11 o'clock the pulse was barely perceptible, but under the use of hypodermics of whiskey it soon improved, but was very irregular. At 11.30, $\frac{1}{60}$ gr. digitalin was injected. At 12 the pulse was very much improved, but as the breathing was not good, $\frac{1}{15}$ gr. sulph. strychnine was given, which soon remedied that. He fell into a calm sleep, and at 2 A.M. was given more whiskey under the skin, and was not disturbed again till morning, when he announced himself as feeling very comfortable. That day the bowels continued loose, and all he complained of was being sore from the numerous punctures of the hypodermic needle. His recovery was uninterrupted, and in a few days he was out about his business.

The poison was in his stomach thirty five minutes. He took at least four teaspoonfuls, but absorption was delayed on account of his stomach being full. Under the circumstances, perhaps it would have been better to have made him remain at the office instead of allowing him to go home, but as he had not felt any tingling until after vomiting, and as he thought he had not had the poison down more than fifteen minutes, I did not realize how much had been absorbed, as the pulse was in good condition when he went from the office. In another similar case I would give the digitalin and strychnine hypodermically as soon as the stomach was emptied.

A CASE OF RABIES.

By M. W. KELLIHER, M.D.,
PAWTUCKET, R. I.

Daniel M——, a strong, vigorous man, junk dealer, was bitten by an unknown dog May 14, 1890. The wound produced by the bite was cauterized about four hours after the accident. The man paid no further attention to the matter, never suspecting that the dog had rabies. His health was as good as usual until the morning of July 23, 1890, when at breakfast he noticed that it was with difficulty he drank coffee. I saw him at 5 P.M. of that day, when he complained of pains in his back, neck, and epigastrium, and constriction of the chest. His expression was anxious, but his appetite was good. He had been troubled with constipation for three or four days. He ate breakfast well enough, but could take no liquids, because, as he said, they "choked him." This he attributed to a hard day's work the day previous. I asked him to drink some water, and as I handed him the glass he gasped for breath and asked that the water be taken from him. I insisted that he should drink the water, and while swallowing the liquid the pain he endured from the spasmodic action in his throat was intense. He placed one hand on his throat, and the other hand on the back of his neck, and appeared to suffer intensely for several seconds after he had swallowed the water. The man showed no fear of hydrophobia even now, attributing the spasm of the muscles of deglutition to hard work done the past few days. The next morning his deglutition was more embarrassed, and even the sight of water produced dyspnœa. Pulse, 120; temperature slightly elevated; was able to take some solid food, but liquids produced a spasm in the muscles of the throat. He said he was determined to recover, and had no fear of hydrophobia. The morning of the third day of the disease he had a more careworn expression, some dyspnœa, and could not be induced to take or look at water. Pulse, 140; some elevation of temperature. At 4 P.M. of the same day he appeared very delirious, talked incoherently, and wanted to leave the house. He took some water in his mouth, but in swallowing it created a very great spasm of the muscles of the throat. Up to this time he had not slept, though he had been kept under large doses of bromides and chloral from the beginning. Pulse, 150; temperature, 104° F. The bromidia had now been increased to ʒ j. every half hour, in order to produce sleep. After taking it at this rate for about six hours he fell into a sleep and slept six hours, the first since the beginning of the disease. When he awoke was very delirious. Pulse, 150; temperature, 104° F. in the axilla. He was unable to recognize anybody. Would take water in his mouth but was unable to swallow it. Five hours later he became unconscious. Temperature in axilla, 105° F.; pulse, 150, very feeble. At 8 P.M. of the same day, being the fourth day of the disease, the patient was unconscious and had Cheyne-Stokes respiration; pulse more feeble; temperature, 105° F. He gradually grew more exhausted, and died about 11 P.M. of the fourth day.

The peculiar feature about the disease was the absence of convulsions. This I attribute to the constant use of antispasmodics from the beginning. From the first he received a quarter-grain of morphine every two hours. This was later discontinued, and he was given ʒ j. of bromidia every hour, and later still, one grain every half-hour. He was bitten in the night while trying to drive this dog from his hennery. I could not discover to whom the dog belonged, or anything in regard to his history.

ABSCESS OF THE LIVER OF MALARIAL ORIGIN—RECOVERY.

By E. VILLARI, M.D.,

NEW YORK.

In the month of March last I was called to the bedside of a poor Italian, whom I found very emaciated and feverish. He had been complaining for three months of pains in the abdomen, more especially on the right side. I found the hepatic region very painful to the slightest touch, the liver was enlarged in every direction, and a small elevation with deep fluctuation in the posterior axillary line, between the ninth and tenth ribs, with widening of the intercostal spaces of the right side.

The hepatic pain had begun three months before radiating in the right shoulder, and since then the patient had suffered from irregular fever, and from diarrhœa alternating with costiveness. It was only a week before my call that the man had noticed the oval elevation in the right side posteriorly. All the symptoms were those of an abscess of the liver.

The man, before this disease, had suffered only from occasional attacks of fever, beginning with chills and ending with perspiration, evidently malarial fever. After an exploratory puncture, which proved the correctness of the diagnosis of abscess, a large trocar was introduced in the direction of the oval elevation, and about four pints of black pus were evacuated. Dr. Byron, who was present at the operation, kindly examined some of the pus under the microscope and found it to contain hepatic cellules and crystals of cholesterine.

At the end of the operation, and for two days after, the only trouble was a little cough from œdema of the right lung, caused by the relief of the hepatic pressure. A rubber tube was introduced into the opening, and the abscess-cavity was washed out daily with a decoction of powdered cinchona bark, half an ounce in a pint of water. This solution is microbicidal, and it may be used freely without the least fear of evil consequences from absorption, which are apt to follow the employment of so many other poisonous substances when used for a long time. Only for the first two days was washing with solution of bichloride mercury, 1 in 2,000, resorted to. The patient took early each morning a decoction of cinchona, one-sixth of an ounce in a half tumbler of water, and one pill of iodide of iron (Blancard's) was taken before each meal. Diet was milk and soup for the first three weeks; after this meat was added.

At the end of two months the man was completely restored to health, and able to do his usual work of street sweeping without any trouble. As this man never was in a tropical country, never suffered from hemorrhoids, never had any intestinal trouble, nor suffered from gallstone, but presented only the symptoms of malaria, so I must regard malaria as one, and in this case as the only, etiological factor of the abscess of the liver. Malaria is not mentioned by pathological authors as a cause of abscess of the liver, but in this case it seems, for the above-mentioned reasons, to be the true cause.

The complete restoration to health of this man, after such an extensive destruction of the hepatic tissue, proves clinically the reproduction of the hepatic cellules, as was experimentally demonstrated on dogs last year by a German physician, whose name, I regret to say, I do not recollect.

TREATMENT OF HABITUAL CONSTIPATION.

By W. WASHBURN, M.D.,

NEW YORK.

An article on this subject in a recent issue of the Medical Record recalls to mind some very obstinate cases of habitual constipation that have come under my care.

The notes of one of the most long-suffering and in some respects serious cases of mine will illustrate. I was called January 2, 1889, to see Miss A——. I found her in a state of collapse, with cold perspiration and thready pulse; she was extremely pale. Was informed that she had just had a movement of the bowels, the first for five weeks. This was said not to be unusual as to length of time or condition following movement except that now she was "weaker and fainter." Stimulants were given by the mouth, ammonia by inhalation, and hot applications were made to the extremities. The patient soon regained strength and was about as usual. Having been the family physician for a long time I had of course noticed that the patient was of a sallow complexion, and was much troubled with what some of our best skin specialists had been treating for acne, but never, according to the patient, had her bowels been the recipient of the slightest care by them, not even the courtesy of an inquiry as to how they were. The treatment for the acne went on pretty regularly for over two years, as did the treatment of the bowels, periodically, at the hands of now this one and now that, until finally it had been received by the family some time before I knew them as the inevitable, and nothing was done for a long time about the bowels; but, as before stated, the acne received almost constant attention at the hands of one or another specialist. Careful questioning elicted the usual causes for constipation, or at least very common causes—irregular habits as to eating, and in short irregular habits generally, frequent purgation in the early history of the trouble, followed later by purgation when the conditions would no longer permit the bowels to go unmoved, which was usually for the past two years between four and five weeks, with a constant tendency to longer periods between the movements. Hot drinks, as usual, contributed to the general bad results. Careful consideration was given to the diet and the patient's tastes consulted, and a line of diet was laid out comprising the cereals that were best tolerated by the patient, fruits, especially baked apples, cooked peaches and prunes, oranges, etc.

Citrate of magnesia was ordered to be taken half an hour before breakfast, in quantities that would not cause purgation. This was strongly insisted upon, for experience has demonstrated that frequent purgations cause constipation, even in the healthy. A large-sized wine-glass was taken as the first morning draught, with instructions gradually to increase the dose if necessary to produce a movement. The unfortunate tendency to take medicine "to save it" was combated by having the magnesia in siphons, so that it would be perfectly preserved until used. A regular time of day was selected in which to solicit movements. In order to take advantage of the effect of digestion it was ordered that this soliciting should take place half an hour after the noon meal, and that calculation be made to pass urine at this time, as a further aid to the bowels. Exact regularity was insisted upon in this matter, with instructions to persevere from day to day, taking an enema of warm water only every third day if the bowels failed to move without. The patient was told that as heat had a tendency to constipate and cold to move the bowels cold drinks should be chosen. Beer was substituted for tea to a large extent, ice-water was taken in moderation, milk was only to be used very sparingly. Only one injection of water was used, the bowels moving at least as often as on alternate days thereafter. Gradually the quantity of magnesia was made less and less, until within three weeks none was taken. In the tapering off process a glass of cold water was taken on each alternate morning, the magnesia being taken on the other. An orange was then taken for some time each morning before breakfast, after medicine was stopped. The patient was gaining in flesh; complexion was improving, and, much to the delight of all, especially of the lady herself, the acne was now gone. The patient has been under constant observation ever since and no return of the old troubles has ever occurred.

This case is a fair specimen of many that can be pro-

duced from my notes of cases. Originality is not claimed for this mode of treatment, and yet the literature on habitual constipation, so far as I know, does not anywhere combine all these elements of treatment. The points of treatment seem all important in the matter of regularity, solicitation, and non-purgation, and it is believed that these matters, faithfully carried out, together with proper diet and the mildest possible laxatives, will be efficacious very quickly in many, if not all, cases where there is no actual paralysis of the bowels.

Progress of Medical Science.

Neurasthenia.—The *Post-Graduate* for January, 1891, contains Dr. Charles L. Dana's recent paper on neurasthenia, which is defined as a morbid condition of the nervous system, presenting excessive irritability and weakness as underlying characteristics. The modifying elements are age, sex, and the neuropathic constitution. Neurasthenics suffer from a peculiar feeling of nervousness, discomfort, unrest, or a sense of tension. Interest in work is lost, there is dread of responsibility, and various morbid fears. Some idea fixes itself upon the mind, and the patient cannot rid himself of it. Sleep is poor, and the neurasthenic awakes unrefreshed. There is difficulty in fixing the mind upon work. About half the cases suffer from headache—diffuse, frontal, or occipital. There is always some weakness and irritability of eyesight. The visual field is normal, but sensation in its periphery tires easily, so that after long testing there is apparently a concentric limitation of the field. The color sense is unaffected. Muscular insufficiencies often occur. Visual memories are lessened. Faces and places are not well remembered. Neurasthenics bear visual irritation badly. Hypermetropia or astigmatism may keep up neurasthenia, but will not in themselves cause it. Attention to the eyes alone, as a means of cure, is irrational and disappointing.

Noise creates great distress. This is usually due to the general mental irritability. Sometimes there is distinct hyperacousia, and slight noises or agreeable music drive the patient nearly wild. Alterations in taste occur with digestive complications. There is a general oversensitiveness to odors. General muscular strength is lessened, the patient tiring, or even collapsing, after slight exertion. There may be fine tremor of the hands after muscular or mental effort. Palpitation of the heart occurs easily. The pulse has frequent and rapid variations in tension. In both sexes there are genital irregularities. The digestive organs, including the metabolic tissues of the liver, are almost always at fault. Gastric symptoms of neurasthenia are those resulting from the action of ordinary or somewhat impaired digestive processes upon over-irritable gastric nerves, or upon a generally over-irritable and weak nervous system. A neurasthenic liver is one of the most common and fundamental conditions of the neurasthenic state. This produces intestinal dyspepsia, fermentation, and constipation. The blood absorbs an excess of ptomaïnes and imperfectly oxidized products. Hence paræsthesia, somnolence, and head pressure. The urine in the young and neuropathic cases is variable in specific gravity, generally low. Phosphates, earthy and alkaline, are excreted in excess. Nitrogeneous solids are often inadequate in amount. Oxalates are found in older cases, but indicate no more than does excess of urates—*i.e.*, a lithæmic state. The amount of urine passed is variable. Sometimes there is polyuria, but, on the whole, the total amount is variable. Respirations are normal in number, but shallow, and deficient respiratory expansion may be noted. Younger patients and women are generally anæmic, but middle-aged adults are not, the face being full and ruddy, and the mucous membrane of good color.

When neurasthenia begins before the age of twenty-five, there is more distinct evidence of neuropathic constitution and inheritance. Mental symptoms are more marked, approaching those of hypochondriasis, and there is greater depression and greater introspection. Neurasthenia of the climacteric, in both men and women, is of comparatively short duration and favorable in its course. Neurasthenia in women shows itself by a greater dominance of sensory and irritative symptoms. There is more pain, headache, neuralgia, and spinal ache, and a greater subjective sensation of "nervousness," more restlessness and irritability. There is greater variability in the rise and fall of symptoms. The neurasthenic woman under excitement does all that a healthy woman can, then collapses entirely. Women of strong purpose will be thus alternately sick and helpless, or bright, active, and cheerful. Those of weak will, aided by the mistaken ministrations of sympathetic friends, get in bed and stay there, drifting into permanent invalidism, because overcome by the pain and weariness that active movement excites. Hysteria often complicates these cases. "Crises" of palpitation occur, of vomiting, tympanites, diarrhœa, pulmonary oppression, syncope, and emotional excitement. Nutrition suffers more than in men, the disorder is of a severer form, and the patient emaciates. Symptoms are slightly exaggerated at the time of menstruation. Rarely, if ever, beginning before eighteen or after fifty, neurasthenia occurs in the following order as regards age: First, between eighteen and thirty; then, between thirty and forty; and less frequently between forty and fifty. Exciting causes are excessive mental strain, sudden shocks, injuries, frights, sunstroke, excessive child-bearing, domestic troubles, sexual excesses, especially masturbation, irregularities and excess in eating, drinking, and smoking. Overwork does not cause it, provided there is no great mental worry. Even these can be borne if the patient is regular in eating and sleeping, and does not drink or smoke too much. Reckless indulgence in athletics during youth, particularly if combined with the overuse of tobacco, may be a cause. In some cases it follows apparently some single powerful physical exertion. Malarial poisoning, syphilis, the infective fevers, particularly cerebro-spinal meningitis, are important agents in causing neurasthenia. Of reflex influences that cause and keep it up, disturbances of the stomach, intestines, and liver are by all odds the most important; next come irritations from the pelvic and generative organs.

Neurasthenia is a condition in which the nutrition of the nerve-cells is primarily at fault. These cells have lost their power of building themselves up into stabler compounds. They break down under slight irritation, and consequently send out but feeble impulses. It is thought by some that this dystrophic condition especially involves those parts which make up the vaso-motor neuro-mechanism. If this be so, it is the nervous tissue of the medulla and central parts of the spinal gray matter that are most involved. There is little doubt, however, that the cortical gray matter and higher centres of the brain are also implicated, for mental symptoms are always prominent. Peripheral nerves are not primarily at fault. Cerebral and spinal hyperæmiæ are secondary to nervous disturbance. Neurasthenia is primarily cellular and secondarily vascular.

The duration of the disease is from one to ten years, depending largely upon treatment and habits of life. Most patients get well, or practically well, with some reminders that they cannot overtax themselves or do the work of those of strong nerves. The late years are the best, owing to lessened nervous sensibility and early, orderly, and temperate living. Neurasthenics, if they get well, get old. With care, neurasthenia may readily be differentiated from simple nervousness, degenerative forms of insanity, such as *folie du doute*, from hypochondriasis, from melancholia, hysteria, and spinal irritation. The patient should have his course of treatment laid out for him. Rest, or lessening of business or domestic duties is fundamental. While travelling is bad, a sojourn

at such places as the Azores, West Indies, Bermuda, or some special point in Southern Europe where out-door life is possible, is of benefit. Diet should be rather nitrogeneous than otherwise. Fats, green vegetables, and fruits may be added. Sugars and starches are to be avoided, though malt preparations usually agree. Nutrition must be carefully watched, the patient must be weighed and sometimes fattened, using water, malt, oil, and cream for this purpose. In many cases a low diet, but one perfectly digestible, is indicated. Cold sponge-baths, the shower, a strong jet of cold water on the back, a cold plunge, or the wet pack, are measures almost invariably indicated. Lukewarm baths, 95° F. to 98° F., for half an hour at night, relieve the paræsthesiæ and insomnia. The skin should have a thorough rubbing every day. Interesting respiratory exercises that expand the lungs should be encouraged. Drugs that are most useful are the bromides, nux vomica, mineral acids, quinine, valerian, the hypnotics, and saline and alkaline laxatives. Bromide of sodium or potassium should be given, in doses of fifteen or twenty grains, three times daily, for only a week, and then gradually reduced to one-half dose, once daily; quinine should be given carefully, as it may increase the nervousness. In neurasthenic women with painful backs or hysterical complications too much cannot be said for electricity, which should be given three or four times weekly and then suspended. General and spinal galvanization and the static sparks are the especially efficient forms.

Emphysema Following Rupture of the Eustachian Tube.—At a recent meeting of the Medical Society of Victoria (*The Australian Medical Journal*) Dr. Kenny related a case of this rare accident. The patient had been under treatment for deafness: On July 31, 1890, a catgut bougie was passed into the left tube as usual. At the end of consultation, patient made attempts to inflate his tubes, according to Valsalva's method, using a great amount of force, and causing marked congestion of the head. About eight hours later he was called to see him. He found him semi-collapsed, with a grave sense of impending danger, dyspnœa, intense constricting girdle-pain in the chest, about the level of the nipples, and a tendency to syncope. He and his wife told the doctor that shortly after leaving his surgery a swelling suddenly appeared in the left side of the neck, below the ear, and behind the ramus of the lower jaw. This had increased both upward and downward, and his present symptoms had come on gradually—had been more severe, but were now abating. While examining, patient had an attack of syncope, which yielded to inhalation of nitrite of amyl (three-minim capsule). Marked crepitation on palpation was observed, extending from some distance above the left ear down along the front edge of the sterno-mastoid, underneath the lower jaw and the floor of the mouth, reaching as high as the right ear, extending across the front of the neck to the right sterno-mastoid, thence to the sternum, being there lost in the chest. It was thought some crepitation could be felt below the ensiform cartilage, but this was doubtful. There was, clearly, extensive emphysema of the subcutaneous cellular tissue, originating in the neighborhood of the left Eustachian tube, and extending into the mediastinum, mechanically interfering with respiration and the heart's action. On examination, no laceration or rupture in the nose or naso-pharynx could be detected, the point of entry of the air was evidently in the Eustachian tube, through a tear caused by the bougie, and enlarged by the patient's efforts, or possibly caused by those efforts. The patient was relieved by taking cardiac and respiratory stimulants, hot fomentations to the neck, boroglyceride as a gargle and nasal douche. The emphysema gradually disappeared, though slight crepitation could be felt for some three or four days under the chin. These cases are interesting because of their rarity. Hartmann, of Berlin, in his book on the ear, states that "alarming and even dangerous accidents may be caused by the catheter injuring the mucous membrane, and inflating the subjacent and surrounding tissues with air. This happens most frequently after passing bougies into the Eustachian tube."

Hints on Disinfection.—Dr. von Esmarch has enumerated some of the points that should be specially attended to in the use of disinfecting apparatus. He agrees with most authorities that steam, either circulating or under pressure, and without the admixture of air, is by far the best means of disinfecting clothing and other articles that will withstand the action of moist heat. As to whether circulating steam or steam under pressure is best, he thinks that it is entirely a matter of convenience, but it will be readily understood that where large chambers have to be constructed it would be difficult and extremely expensive to build them of sufficient strength to withstand any great pressure from within. Even in the case of smaller sterilizing chambers, the expense of obtaining them sufficiently strong is so great that in most cases their use is precluded. The main desiderata for a perfect disinfecting apparatus are that it shall be close to the source of the steam-supply; that there shall be sufficient steam developed to fill it thoroughly, and to keep up the temperature for some length of time; that the steam shall be sent in at the top and passed out at the bottom, in order that every crevice of the apparatus may be filled; and that where it is used in large establishments, it shall be placed between two rooms, into one of which articles to be treated are to be taken, and passed in at one door of the sterilizer; while the other room should be at the other end of the sterilizer, and into it the clothes should be passed, so that they shall not again be brought into contact with unsterilized clothing, etc. Articles that are to be disinfected should not be allowed to remain too long in contact with steam, and before being steamed they should be thoroughly heated, so that there is no opportunity for the steam to condense on cold surfaces, and in the same way they should be well dried by heat after the steaming process has been concluded. Twenty minutes is quite long enough to allow most ordinary articles to remain exposed to a moist heat of 212° F., so that they should be left for this length of time after the temperature has once been raised to this point, this being determined by an electrical contact thermometer, or a thermometer placed in a tube through which the steam escapes; some simple manometer should be used to determine the pressure that has been obtained by super-heating the steam. The greatest attention should be paid to this point of time of exposure, for it is the experience of all medical officers of health that nothing deters people from sending their clothes to be sterilized so much as the fact that they are frequently ruined by too long an exposure to the action of the steam. Discrimination must also be used in determining what articles can be safely steamed, and an officer of health who ordered stamped plush, leather, skins, or waterproof material to be exposed to heat would render himself liable to be heartily laughed at by all practical men. Grease should always be removed if possible before the articles are put into the sterilizer, otherwise it becomes fluid and is liable to spread to other parts.—*Hygienische Rundschau.*

The Blood in Pneumonia.—Dr. Kikodze has published some observations on the blood during pneumonia. He found that during the course of this disease the white corpuscles increase in number to as much as double, or even treble, what they are in healthy persons. The increase is observed in the fully mature and over-mature corpuscles rather than in the young ones. It is worthy of note that in fatal and very severe cases no increase in the white corpuscles is found. As a rule, however, the increase begins even before the physical signs of pneumonia are detected. It persists from that time onward without any great variations, to the crisis, immediately after which it suddenly falls. It appears to be due to the re-entry into the circulation of the corpuscles which have passed out

into the alveolar spaces; hence, probably, the preponderance of over-mature corpuscles. After the crisis this preponderance ceases.

Salol as an Antiseptic in Cancer of the Uterus.—Of the symptoms characterizing cancer of the uterus in its later stages, more especially when it is complicated by a vesico-vaginal fistula, none is more trying to the poor sufferer than the repulsive odor proceeding from the diseased surface. The palliative means in ordinary use, such as injections of carbolic lotion, sublimate and iodized solutions, vaginal suppositories of iodoform, etc., are only partially successful in mitigating the fetor which renders the last days of the patient a veritable martyrdom to herself and to her *entourage*. In salol administered internally in daily doses of from two to four grammes (increased if need be to six or eight grammes, and continued uninterruptedly for a long time) Dr. Marty claims to have discovered a sovereign remedy for this state of things, provided there be a communication between the vagina and the bladder. The urine, flowing constantly over the diseased tissues and impregnated with the products of the decomposition of the salol—viz., a phenylsulphate and salicylic acid—keeps the parts sweet, and its action adds greatly to the comfort of the patient.

Periodic Paralysis.—Dr. Goldflam describes a peculiar form of paralysis which is periodic, hereditary, and, according to him, autotoxic The case which he describes occurred in a boy, aged seventeen, who, three years previously, had been attacked in the night with a sudden paralysis affecting the extremities and trunk. This lasted three days and since then had frequently recurred, more especially in the spring of the year. The attacks generally commenced in the evening. The first symptom noticed was an almost unbearable itching over the site of the paralysis; there was always constipation. The paralysis was not absolute, the knee reflex was lessened, the plantar reflex lost; sensibility was not affected. There was no tenderness over the muscles or nerves, and no bladder symptoms. The backward and forward movements of the head were deficient. The muscles of the face, tongue, eye, and œsophagus were not attacked; speech and movements of respiration were normal. The faradic irritability of the large nerve-trunks in the upper extremities was greatly diminished during the attacks, and slightly so in the lower extremities. There was complete absence of direct muscular irritability. Reaction to the galvanic current was also considerably weakened. The attack lasted forty-eight hours, and concluded with profuse perspiration. The peroneal muscles alone remained affected for some time. After the attack all the nerves and muscles responded promptly to both currents. There was at no time a rise of temperature. Examination of the blood and urine gave negative results. One of the most interesting facts in connection with this case is that eleven other members of the patient's family were subject to similar attacks, but only on the mother's side; the father's family was completely free. The hereditary character of this disease followed no regular course; occasionally all the females were attacked, leaving out the males, and sometimes the reverse was the case. The frequency of the attacks in the different sufferers also varied considerably, but they did not seem to affect the ordinary duration of life. Dr. Goldflam has collected several such cases from medical literature, and the following is a summary of his investigations: In the intervals between the attacks there was some diminution in the electrical reaction in the smaller muscles of the hand, together with the reaction of degeneration. Although improvement occurred in most of the cases, this was interrupted by relapses. As regards the pathology of the disease, Dr. Goldflam believes that the muscles themselves are affected, or, perhaps, the nerve endings, such as occurs in poisoning by cocaine.—*Wiener Medicinische Presse.*

The Etiology of Tinnitus.—We are now able in almost every instance to determine the cause of any form of noise in the head and ears, and by the aid of instruments refer them to the part of the head or ear to which they belong. Again, we can reduce the noises to three classes, and as soon as the patient gives the history of the form he suffers from we can classify it as: 1. The constant rushing and knocking or pulsating noises. These are the most rare, and almost always depend upon hyperæmia, venous or arterial effusion of blood, serum, or pus in labyrinth, semicircular canals, ecchymosis in the vestibule, hyperæmia of the cochlea; extra-aural, as aneurism, anæmia, chlorosis, lithæmia, temporary or permanent changes in blood-vessels in and around the ear. 2. Moist sounds of great variety, depending on the patient's occupation and intelligence, but chiefly called gurgling, bubbling, boiling, singing, whistling, shell-like roaring, etc. These indicate the presence of fluid on the drum or in the cavity, catarrh of the Eustachian canal, auditory canal, mastoid cells, or post-nasal and pharyngeal spaces. 3. Dry roaring and ringing sounds, comprising a large number of diseases of the auditory nerve, direct or reflex. Among the direct, chronic non-suppurative middle-ear catarrh, affections of the muscular and nervous supply of the ear, cerebro-spinal-meningitis, pressure of tumors in or about the ear or auditory nerve, Ménière's and syphilitic disease of the nervous apparatus of the ear. Certain habits induce the noises. Use of stimulants and tobacco, a full meal, great bodily or mental fatigue, mental action with artificial light and heat near the head. Certain vocations increase the noises, as telegraph operatives, locomotive engineers, boiler-makers, machine workers in cotton or wool factories. Mental influences: A happy frame of mind, pleasant active occupation, and riding in carriage or train, during the daytime diminish these sounds. Ill-temper, extremes of temperature, indigestion, the night with its quiet, meeting strangers, etc., increase the sounds. In women tinnitus is apt to appear with sick stomach during pregnancy and menstruation. Painful noises attend diseased kidneys, especially diabetes and Bright's. Subjective sounds in middle-ear disease can be changed by pressure with the finger on the mastoid or first cervical vertebra, and increased by closing the external meatus. In post-mortems on persons who have suffered tinnitus for long periods without any apparent disease of the ear, there has been found disease of the semicircular canals, ecchymosis of the vestibule, hyperæmia of the cochlea, and general enlargement and fulness of the vessels of the labyrinth.—*Medical Analectic.*

Pathology and Treatment of Muscular Torticollis.—The *Mercredi Médical* for March 4, 1891, contains the report of a meeting of the Vienna Practitioners' Society, in which this subject was considered and discussed. According to Dr. Lorenz, the too frequent imperfect results obtained were due either to insufficient division of the contracted muscle or to defective post-surgical treatment. Muscular torticollis, it is needless to mention, is caused by a contraction in one sterno-cleido mastoid muscle. The head inclines to the opposite side, usually backward, sometimes forward, and displaced laterally from the median line. A distinction must be made between mild and severe cases. In its severe form there is great deformity of the cervical vertebræ, scoliosis with convexity toward the affected side, and lateral displacement toward the same side. In mild cases the scoliosis presents a convexity toward the unaffected side; and toward this same side there is lateral displacement of the head. In both instances there is compensatory scoliosis in the dorsal region of the vertebral column. Mild cases are much more rebellious to treatment than severe ones, in the back of the neck, on a level with scoliotic convexity, there is usually a strongly-defined pad of muscle, formed by the muscles of the nucha. On the opposite side there is a depression. In severe cases, division of the sterno-cleido mastoid muscle permits at once the normal erect position

of the head. Not so in torticollis of slight degree. Here the deformity of the cervical vertebral column prevents a perfect result. An open incision is best, though subcutaneous cutting presents disadvantages from the æsthetic point of view. It is often the fear of scars that prevents a completely successful operation. To make an incision of which the scar can later be concealed with ease, cut in between the two heads of the muscle. By opening wide the lips of the wound the contracted muscle can readily be severed. Healing should be by first intention and the stitches removed in a week. Post-surgical treatment is even a greater factor in cure than surgical interference. The head should receive passive movements, and be moved voluntarily in certain directions. Later, general massage of the head is in order. Appliances are of comparatively little service, for they cannot overcome the influence of the spinal deformity. Results obtained from open incision Dr. Billroth considered sufficiently satisfactory, in spite of the presence of deformity in the region of the cervical vertebræ. One of his patients operated upon died of septicæmia. The æsthetic fault of the operation consists in the impossibility of doing away with the furrow left in front of the muscle's anterior border. Dr. Lorenz believed that the rapid reunion of the severed ends of the muscle, by causing strong tension, would fill out the depression. While Dr. Weinlecher preferred the subcutaneous operation, he agreed with the others in acknowledging the importance of after-treatment. One valuable suggestion was made by Dr. Weinlecher, to wit: In the subcutaneous method of operating for torticollis, turn the head in a way to induce considerable tension of the muscle, thus facilitating its complete division. Were the subcutaneous method as defective as it is sometimes considered there would be frequent relapses, which is not the case so far.

Laryngeal Chorea. — The *Gazette Hebdomadaire de Médecine et de Chirurgie*, March 14, 1891, quoting from a Spanish journal, cites a case of dysphonia with dry cough as a sequel of grippe in a twenty-year-old patient without hysterical stigmata or previous neuropathic history. The cough, obstinate and painful, was quieter at night. The laryngoscope revealed alternate contraction and relaxation of the vocal cords. Upon this condition the author, Dr. Furundarena Labat, bases the diagnosis of laryngeal chorea. There was also hypertrophy of the nasal mucous membrane. Cocaine applied to this membrane stopped the laryngeal spasm, while irritation of the membrane would increase it. Removal of the thickened tissues effected a complete cure of the laryngeal disturbance.

Cocaine in Dental Surgery.—Dr. A. Préterre, a dentist of Paris, has studied carefully the action of cocaine in preventing pain in dental surgery, and has come to the conclusion that it is an unreliable anæsthetic in such cases, and that its employment is by no means free from danger. More accidents happened in one hundred cases in which cocaine was used than in thirty thousand in which anæsthesia was obtained by the use of nitrous oxide gas, and the writerfo therere recommends that the latter be always used in preference to cocaine.

The Creed of an Experienced Gynecologist. — Professor Goodell says that he has learned to unlearn a great deal in the treatment of diseases of women, and as a result of this he has adopted a short but comprehensive gynecological creed, which runs as follows: "I believe that the physician who recognizes the complexity of woman's nervous organization and appreciates its tyranny, will touch her well-being at more points and with a keener perception of its wants than the one who holds the opinion that woman is woman because she has a womb." —*College and Clinical Record.*

Society Reports.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Stated Meeting, April 20, 1891.

SAMUEL B. W. MCLEOD, M.D., PRESIDENT, IN THE CHAIR.

Case of Traumatic Occlusion of the External Auditory Meatus.—DR. MATTHIAS L. FOSTER presented a boy, aged eleven, who was injured last July by a heavy box falling upon him. He was admitted to the New York Hospital shortly afterward, where they dressed a wound involving the cheek and lobe of the ear on the right side. He was soon able to be out. In October he appeared at the Manhattan Eye and Ear Hospital on account of occlusion of the right ear, and was treated by Dr. Pomeroy by progressive dilatation of the small canal leading into the ear. Rubber tubes were employed, increasing in size, keeping up constant pressure against the hypertrophic growth. The watch could be heard only on contact before dilatation; afterward the hearing had become about normal. There was, however, a tendency for reocclusion to take place, and the results of treatment after such accidents were for this reason unsatisfactory. He said that such cases existed sometimes from birth. But he had been able to find accounts of only two which were clearly of traumatic origin. He suggested that multiple incisions might be practised in such a way as to keep the auditory canal patent.

A Case Cured by Galvanism.—DR. OPPENHEIMER said he had seen two cases like the one narrated by Dr. Foster, in one he succeeded in keeping the canal open by a sort of primitive electric battery, connecting a conical silver speculum introduced into the canal by a fine copper wire with a small tin plate applied behind the ear, the latter only requiring to be dampened (using vinegar), the discharges from the canal keeping the former moist. The granulations were thus repressed, and the surface healed in about six weeks, giving a perfectly satisfactory result. He had never published the case.

The Phonograph and Micro-Graphophone in Medical and Other Sciences.—DR. J. MOUNT BLEYER read the paper and demonstrated the subject by means of two phonographs and one micro-graphophone. He referred to the invention of the phonograph ten years ago by Mr. Edison, his prediction regarding its uses, the fact that, for want of perfection in the mechanism it had remained a toy until a few months ago, that now it was capable of recording and reproducing any kind of sound. Without going into the details of the construction of the machine, he said the principle of its action consisted in recording on a revolving cylinder of wax the sound wave impressions of a delicate diaphragm through the intervention of a needle. Reversing the process, the diaphragm was made to undergo the same wave like motions and reproduce the sounds by turning the cylinder and allowing the needle connected with the diaphragm to retrace its steps. If the cylinder were turned slower than when the impres sions were recorded the voice would be reproduced as spoken, but in a lower tone; if turned faster it would be reproduced at a higher pitch. It was a somewhat curious fact, however, that the timbre remained the same. He said the company's men would keep the instrument in order, but it was better for one to master its mechanism and be able to repair anything which might happen to get out of working order.

DR. BLEYER said he had been working some years in applying the phonograph to medical science. The instrument could be made to record many sounds connected with the respiratory tract in both the normal and abnormal state. The voice sounds could be recorded and kept for comparison in health and disease. A record of sounds produced in whooping-cough, asthma, croup, diphtheria, would be of great value. In the two latter diseases one

would obtain from it a clue as to when to operate for dyspnœa. It was also of interest to have a record of the cry of maniacs, hysterics, etc.

In other directions the instrument was of value in learning to pronounce correctly foreign languages, in correcting errors in vocalization on the part of actors, in the preservation of the speech of distinguished persons, in the study of natural history, in setting type by sound, etc. The phonograph required the use of hearing tubes.

The principle of construction and action of the micro-graphophone, invented by Lieutenant G. Bettini, whom he introduced, was similar in many respects to that of the phonograph, but was intended to be an improvement on the latter in reproducing sound with greater intensity. He said this was the first time the inventor had demonstrated his instrument in public, and then only after much personal persuasion on the part of the author. The chief feature distinguishing the micro-graphophone from the phonograph was in the construction of the vibrating diaphragm. This was larger, was divided into several parts, and the recording needle was connected with it at more than one point by a "spider." In this way dead points were obviated, or, rather, the recording point being connected with different parts of the diaphragm, one part becoming dead, another part would transmit the wave to the needle and through it make the impression upon the wax.

Mr. Bettini then sang, spoke, coughed, and whistled into his instrument, the instrument reproducing the sounds with great accuracy and distinctness. He further explained the construction of his machine, and said that if the needle were attached to the diaphragm at only one point, that point might happen to be a dead one, although other portions of the membrane were vibrating, and thus fail to record some of the sounds. To obviate this, he had divided the diaphragm into different parts, and made connection with the needle by means of the spider.

Cylinders were passed through the phonograph, reproducing the sounds of singing, coughing, hoarseness, sneezing, crying of a baby, etc. Dr. Bleyer said he was experimenting, trying to record the heart sounds with sufficient intensity to be of medical value.

Correspondence.

"NOTHING NEW UNDER THE SUN."

To the Editor of the Medical Record.

Sir: The article by a member of the profession in Indiana which appeared in the Medical Record of the 4th inst., on the treatment of diphtheria with "sulphate of zinc" carries me back to the time when I was a student, and strengthens my faith in the principles of therapeutics taught me many years ago.

During the years 1874–75, while I was under the tutelage of a distinguished physician, who was a student of the illustrious B. W. Dudley, of Kentucky, an epidemic of diphtheria was prevailing in eastern North Carolina. My preceptor, whose practice extended over a territory of four counties, was so successful in the management of this formidable and destructive malady that his treatment was the subject of much favorable comment on the part of the laity. One day, as he was passing through the office, I said to him: "Doctor, how do you treat diphtheria?" "With the sulphate of zinc," he replied. In his absence, as a dernier ressort, I was sometimes asked to prescribe for the little sufferers, and would use the same drug with like results. Since that time I have been using sulphate of zinc in diphtheria and other malignant throat affections with good results. I heartily endorse every word the gentleman from Indiana has said, and am glad that he has called the attention of the profession to so important a point in the treatment of a malady which has spread its ravages all over this fair land of ours and brought sorrow and sadness to our many otherwise happy homes.

R. C. Ellis, M.D.

Waynesville, N. C., April 13, 1891.

MEDICAL MEN AND TEMPERANCE.

To the Editor of the Medical Record.

Sir: Thanks for the candid and courteous response in your issue of the 14th inst. Even if your space and time permitted I would have no desire to prolong the discussion, but with your kind approval, I would ask the following questions. It is said, "People are better without alcohol, but there is a contingent of grown-up persons who can drink it temperately without harm. This is what physiology teaches and medical experience confirms."

Now, is it not true that experience also teaches that the man who most fully persuades himself that he is one of this fortunate "contingent," is usually the one who should most carefully guard against the use of alcohol as a beverage? "*Humanum est errare.*" Second; In view of the sad fact, taught by statistics, that about one person out of every fifty becomes a drunkard, and of the positive harm thus resulting to the victim and to society, is it not the duty of every "philosophic physician" to forego the negative benefit to be derived from the "temperate" use of alcohol as a beverage, for the sake of his weaker brother whom it causes to offend? Example is ever more powerful than precept, and youth is ever prone to imitate the ways of "grown-up persons."

Emerson says "The Mohammedans conquered Europe on barley"—meaning, evidently, that this portable food sufficed for the simple wants of both themselves and of their incomparable steeds. Had the Europeans resorted more to barley and less to "John Barleycorn," is it likely that they would have needed eight hundred years in which to entirely expel the invaders—those water-drinking Christian and alcohol-hating invaders, who brought to benighted Europe science and art, and all polite learning; who founded medical hospitals and schools, and noble cities, the remains of which even now are the admiration of the world.

Respectfully,

Old Subscriber.

[Our correspondent enters upon the domain of ethics and history, and has gone outside the limits of medical journalism.—Ed.]

SCARLET FEVER AND THE IMMUNITY OF THE JAPANESE.

To the Editor of the Medical Record.

Sir: Your readers will perhaps remember my article in the Record of March 21st (it consisted in a letter to Professor Law, about scarlet fever in its relation to Japan). I tried to establish the fact that the latter country enjoys a total, or, at least, an almost total immunity from that disease. Even Baelz, who claims to have seen several mild cases of the disease as it exemplifies itself in European countries, admits that he never saw it in Japanese women or children. I have recently received a letter from Surgeon Suzuki of the Japanese Navy on the subject. He declares that he never saw a case of scarlet fever in Japan, during his whole practice; he is a graduate of the University of Tokio, which means that he attended the clinics of the Tokio hospitals during at least six years.

I had previously mentioned, in the Record of January 10th, an attempt I had made to inoculate a Japanese with scarlet fever. I thought that it might be possible to transfer the immunity from one race to the other, either through a resulting modified disease or by pure blood inoculation. I referred to this experiment in a letter to Professor Alexander Edington, of Edinburgh, mentioning at the same time the report of a Japanese case of scarlet fever at Cornell University, published in the Medical Record of February 21st, by Dr. Kirkendall. Of course, if there is no mistake in Dr. Kirkendall's diagnosis, the case would show, as Professor Law suggested to me, susceptibility acquired by acclimation. From Professor

Edington's answer I extract the following points, which I am authorized to make use of.

1. "I am not aware of any known cases of scarlet fever occurring among Japanese."

2. "Your attempted inoculation may be fallacious; scarlet desquamation is not at all times virulent, but is most so about the 25th to the 30th day (roughly speaking)."

3. "Klein and Powers's attempts were not quite clearly successful either postively or negatively."

4. "Inasmuch as certain pathogenic species can in an open wound, in an immune animal, produce a pyogenic or perhaps a saprogenic rather than a truly pathogenic manifestation, it is clear that in an immune human race a disease obtaining with certain well-defined symptoms in the susceptible races may if it gains a footing at all manifest its presence under quite another guise. The analogy is complete in the higher vegetable forms, and why should we not admit it here? The evolution of disease is a most interesting question, and I am sorry to find that medical science attempts to be too dogmatic and narrow-minded when such general questions are to be discussed."

Professor Edington has just been appointed Bacteriologist to the government at Cape-town. When he arrives there he will again look into this most interesting matter and let me know whatever conclusions he may reach.

Very Respectfully,

ALBERT L. ASHMEAD.

4 KING STREET, NEW YORK.

New Instruments.

A HOOK FOR THE REMOVAL OF FOREIGN BODIES FROM THE EAR.[1]

BY E. MEIERHOF, M.D.,

SURGEON FOR EYE AND EAR DISEASES IN THE OUT-DOOR DEPARTMENT MT. SINAI HOSPITAL, ETC.

FOR those cases of impaction of foreign bodies in the external auditory canal which are not removable by irrigation, particularly bodies, such as beans, which swell from the absorption of water, I have devised a hook for their removal which has proven very efficient in my hands. The instrument, made for me by Messrs. John Reynders & Co., consists simply of a shank in a handle with a bend at the end of the shank at right angles, the little bend which forms the hook is slightly curved laterally. The object of this lateral curve is intended that the point of the hook shall not come in contact with the superior wall of the canal.

For the removal of a foreign body pass the hook into the canal, keeping the point upward, with the convex side of the hook lightly against the posterior wall of the canal until it passes in between the foreign body and the posterior wall, after which rotate the handle on its axis so that the point of the hook will bury itself somewhat into the foreign body, gentle traction will then dislodge the offending object.

57 EAST SIXTY-FOURTH STREET.

To Reward Koch.—A certain Colonel Nolan has addressed a question in the British Parliament to the First Lord of the Treasury respecting the intention of the Government to confer a suitable pecuniary reward on Dr. Koch for his "eminent services to humanity." The reply was that Koch's great reward must be the appreciation of the value of his discovery by the medical profession in all parts of the world. Perhaps this is better than any "pecuniary reward."

[1] Exhibited before the Metropolitan Medical Society, New York.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from April 19, 1891, to April 25, 1891.

KNEEDLER, WILLIAM L., Captain and Assistant Surgeon. By direction of the Acting Secretary of War, is relieved from duty at Jackson Barracks, La., and will report in person to the commanding officer at Fort Logan, Col., for duty at that post; reporting also by letter to the Commanding General, Department of the Missouri S. O. 88, par. 2. Headquarters of the Army, A. G. O., Washington, D. C., April 18, 1891.

BUSHNELL, GEORGE E., Captain and Assistant Surgeon, Camp Pilot Butte, Wyo. Granted leave of absence for twenty-one days, to take effect on or about May 1st next. S. O. 49, par. 9, Department of the Platte, Omaha, Neb., April 20, 1891.

WOODHULL, ALFRED A., Major and Surgeon. By direction of the Acting Secretary of War, is detailed to represent the Medical Department of the Army at the International Congress of Hygiene and Demography at its meeting in London, England, from August 10 to 17, 1891. He will leave his present station not later than June 1, 1891, and will proceed to London. After the adjournment of the Congress he will return to his proper station. While abroad under this order, and before returning to the United States, he will visit on official business such points in Great Britain as may be deemed necessary by the Surgeon-General of the Army. S. O. 91, par. 17, A. G. O., Washington, D. C., April 22, 1891.

Official List of Changes in the Medical Corps of the United States Navy for the week ending April 25, 1891.

MCMURTRIE, D., Medical Inspector. Detached from Navy Yard, New York, and ordered to the Lancaster.

KERSHNER, EDWARD, Medical Inspector. Detached from Marine Rendezvous, and ordered to Navy Yard, New York.

HERNDON, C. G., Surgeon. Detached from Naval Hospital, New York, and ordered to the Marine Rendezvous.

GARDNER, JAMES E., Passed Assistant Surgeon. Ordered to Naval Hospital, New York.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending April 25, 1891.

	Cases.	Deaths.
Typhus fever	1	0
Typhoid fever	14	4
Scarlet fever	181	49
Cerebro-spinal meningitis	8	10
Measles	396	20
Diphtheria	82	28
Small-pox	1	1
Varicella	12	0
Pertussis	0	fi8
Erysipelas	2	0
Mumps	0	0
Rötheln	0	0

Chinese Gynecology.—A patient with prolapsed uterus lately consulted a Chinese doctor, when the learned man ordered a blister to the shaved crown of her head, in order to draw the prolapsed organ back again. During the treatment the patient's attention was directed entirely to her head.

Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 39, No. 19.
Whole No. 1070.

NEW YORK, MAY 9, 1891.

$5.00 Per Annum.
Single Copies, 10c.

Original Articles.

A NEW METHOD FOR DIRECT ELECTRIZATION OF THE STOMACH.[1]

BY MAX EINHORN, M.D.,

PHYSICIAN TO THE GERMAN DISPENSARY, AND INSTRUCTOR IN CLINICAL MEDICINE AT THE NEW YORK POST-GRADUATE MEDICAL SCHOOL.

MR. PRESIDENT AND GENTLEMEN: Numerous experiments have been made in the study of the influence of electricity upon the stomach and intestines; all of them serve to demonstrate the physiological effects of this agent.

Ludwig and Weber,[2] von Ziemssen [3] and Bocci [4] have stated that on animals the faradic, as well as the galvanic, current, applied directly to the stomach, causes contractions of this organ, and produces secretion of the gastric juice.

Schillbach,[5] upon applying the galvanic current to the bowels of a rabbit, observed intense contractions at the site of the anode, followed by peristaltic movements. Fubini [6] lately demonstrated, after making a Vella's double intestinal fistula, that electricity quickens intestinal peristalsis to a high degree, viz., about five or six times.

The influence of electricity upon the stomach and intestines thus being evident, it is perfectly right to endeavor to make use of this means in the therapeutics of these organs.

For many years past, numerous authors have employed electricity in affections of the stomach and intestines. The method generally used for this purpose consisted in the percutaneous application of the current; usually one electrode was held in the neighborhood of the vertebral column at about the sixth dorsal vertebra on the left side, the second electrode being placed at the epigastrium.

A. D. Rockwell and M. Beard [7] were among the first to make use of electricity on a large scale in the treatment of nervous dyspepsias. To the application of electricity to the stomach they added general electrization, and had the most brilliant results.

Neftel,[8] in 1876, says: "For more than eight years I used the induced current in the treatment of dilatations of the stomach arising from chronic catarrh, with much success."

Fuerstner [9] has treated three cases of suddenly appearing attacks of gastric tympanites in nervous females with the galvanic current, and could always observe an amelioration of the complaints. Each time after the galvanization Fuerstner found the limits of the stomach diminished. Based upon this fact he recommends the same method of treatment in atonic dilatations of the stomach.

Oka and Harada [10] treated thirteen stomach patients with the faradic current, with the result that five were cured, six improved, and two uninfluenced. Leube,[11] in the treatment of nervous dyspepsia recommends the daily application of electricity. Lente [2] and Semmola [3] have obtained splendid results by the use of electricity in cases of vomiting of the most various nature. Lente recommends electricity as a cure for sea sickness, though he has not given the matter a sufficient trial. Richter [4] advises the use of electricity in nervous dyspepsia and nervous enteropathy. Leubuscher [5] speaks highly of the application of the galvanic current in pathological conditions of the lower intestines.

Besides these clinical facts, there have lately been added some more exact notes as regards the physiological effects of percutaneous electricity of the stomach in man. Ewald and myself [6] have been able to demonstrate an acceleration of the motor faculty of the stomach under the influence of percutaneous faradization, by the appearance of the salol-test in the urine about one-fourth of an hour earlier than otherwise. A. Hoffmann [7] showed that the galvanic current percutaneously applied in the gastric region for twenty minutes produces an abundant secretion of gastric juice.

Although the favorable influence of electricity, even percutaneously applied, is quite evident in numerous affections of the stomach and intestines, it, however, remains questionable whether any of the produced electricity penetrates to the stomach. The main currents undoubtedly go through the skin and muscles, and if any of them reach the stomach, they must be very weak. But surely we might expect to attain better and more successful results by the application of electricity directly to the stomach. In his celebrated book on "Electrotherapy," Erb [8] says: "The first maxim to observe is the treatment in *loco morbi*, *i.e.*, the application of electricity to the morbid part itself. . . . There is no doubt that it is best, in the great majority of cases, to operate directly on the diseased spot."

Pepper [9] had a patient with dilatation of the stomach, in whom the abdominal walls were so thin that the spontaneous peristalsis of the stomach could be perceived. On this patient he showed that electricity, percutaneously applied, never produced any peristaltic movements of the stomach. Pepper then continues as follows: "The difficulty of compelling a current, no matter what may be its strength, to penetrate through various layers of tissue of different consistency and anatomical character is well known." Speaking of the percutaneous electricity of the stomach, Kussmaul [10] remarks: "The therapeutic results obtained by Fuerstner and others in cases with dilatations of the stomach do not prove that by means of the current a direct peristalsis of the stomach was induced, but could be attributed to the favorable influence of the contractions of the abdominal walls." All the sentences mentioned plead for applying electricity to the stomach directly, and not percutaneously, if possible.

Canstatt [11] first proposed to combat dilatations of the

[1] Read before the New York Academy of Medicine, March 5, 1891.
[2] Ludwig and Weber: Cited from Kussmaul, Arch. f. Psych. und Nerv., 1877, tome viii., p. 205.
[3] Von Ziemssen: Klin. Vorträge, No. 12, Die Electricität in der Medicin.
[4] Bocci: Lo Sperimentale, June, 1881.
[5] Schillbach: Virch. Arch., Bd. 109, p. 284.
[6] Fubini: Centralbl. f. d. med. Wissensch., 1882, No. 33, p. 579.
[7] A. D. Rockwell and M. Beard: Philad. Med. Surg. Report., 1868, No. 20, and 1871, p. 470.
[8] Neftel: Centralbl. f. d. med. Wissensch., 1876, No. 21, p. 370.
[9] Fuerstner: Berl. klin. Wochensch., 1876, No. 11.
[10] Oka and Harada: Berl. klin. Wochensch., 1876, No. 44.
[1] Leube: Deutsch. Arch. f. klin. Medicin, 1879, tome 23, p. 98.
[2] Lente: Arch. of Electrol. and Neurol., 1874, i., p. 193.
[3] Semmola: L'elettricità nel vomito, Gaz. med. Ital. Lombard., 1878, No. 6.
[4] Richter: Berl klin. Wochensch., 1882, Nos. 13 and 14.
[5] Leubuscher: Centralbl. f. klin. Med., 1887, No. 25.
[6] Ewald and Einhorn: Verhandlungen des Vereins für innere Medicin, 1888, p. 58.
[7] A. Hoffmann: Berl. klin. Wochensch., 1889, Nos. 12 and 13.
[8] Erb: Handbuch der Electrotherapie, p. 279.
[9] Pepper: Philad. Med. Times, May, 1871, p. 274.
[10] Kussmaul: Arch. f. Psych und Nerv., 1877, viii., p 205.
[11] Canstatt: Cited from Kussmaul, l. c.

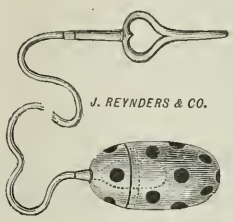
stomach by direct electrization, introducing one electrode into the œsophagus and putting the other in the stomach region. Duchenne [1] was the first who made use of this method. Very soon afterward, in 1877, Kussmaul [2] began to practise the direct electrization of the stomach. The electrode used for the purpose consisted of a stomach-tube, through which ran a copper wire ending in an olive point and fastened to the cut-off end of the tube. In several patients with dilatation of the stomach Kussmaul introduced this electrode into the stomach, the other (ordinary) electrode being held in the hand. In applying electricity in this way contractions of the abdominal muscles on the left side appeared, and in one patient, with thin abdominal walls, contractions of the stomach were visible on applying weaker electric currents. Kussmaul speaks very highly of this method for the direct electrization of the stomach.

Later on Balduino Bocci,[3] in 1881, experimenting on animals, was persuaded "that the indirect faradization of the stomach through the abdominal walls produces in the stomach, even when applied in a very energetic way, phenomena of very little importance, and of a dubious curative effect." As the direct faradization of the stomach, on the other hand, showed all the above-mentioned physiological effects, Bocci recommended anew the use of the direct electrization of the stomach for therapeutic purposes. Bocci used for this end an electrode like that of Kussmaul.

Great progress in the direct electrization of the stomach was made in 1884, by G. Bardet.[4] The direct contact of the lower metal piece of the electrode with the inner wall of the stomach irritates only a small spot, and this very intensely, whereas the larger part of the stomach receives but very little of the electricity produced; in consequence thereof the galvanic current could not be applied, because by the usual method it would not be possible to avoid lesions of the mucous membrane of the stomach. In order to overcome these drawbacks Bardet constructed his stomach electrode in such a way that the metal-piece running through the tube was shorter than the tube, and did not touch its windows. By filling the stomach with water the electric circuit between the stomach-wall and the lower metal-piece of the electrode was established. In this way the electricity was distributed over the whole surface touched by the water. By means of this electrode Bardet treated three cases of dilatation of the stomach, and one case of obstinate vomiting, with the galvanic current (15 to 25 milliampères) and obtained splendid results. Most authors who employed the direct electrization of the stomach have, until now, generally used Bardet's electrode. (Charles G. Stockton's [6] stomach electrode does not differ very much from that of Bardet.)

Although the high value of the direct electrization of the stomach is self-evident, this method did not enter much into practice, because the tube surrounding the electrode had to be kept in the throat during the whole electric session (about ten minutes) and inconvenienced the patient to such a degree that the procedure could be carried out only in people accustomed to lavage of the stomach, and even by them it was disagreeably felt. That is the reason why von Ziemssen [6] rejected direct electrization of the stomach as being too straining and exhausting. Ewald,[7] notwithstanding these difficulties, recommends it. In the same way Charles G. Stockton,[8] in his elaborate paper entitled, "Clinical Results of Gastric Faradization," highly recommends the use of direct electricity in cases of dilatations of the stomach and in many functional disturbances of this organ. Boas,[1] on the other hand, is conservative as regards the use of direct electricity for the stomach. This author gives in his book, "Diagnostik und Therapie der Magenkrankheiten," a drawing of the stomach-electrode generally in use, which consists, as described above, of a stomach-tube, through which runs a fine spiral wire ending in a metallic button within the tube.

In order to facilitate the internal or direct electrization of the stomach I have constructed an electrode on the same principle as the stomach bucket designed by me.[2] This electrode once swallowed reaches the stomach without further artificial aid. The silk thread of the bucket is represented in the electrode by a very fine (1 mm. in diameter) rubber tube through which a very fine, soft, conducting wire runs to the battery. The end-piece of the electrode consists of a hard rubber capsule (of the same size and shape as the stomach bucket) with many openings. In this capsule lies a metallic button which is connected with the wire. (Figure shows the electrode in natural size).



The rubber capsule serves to avoid the direct contact of the metal with the stomach-wall; the circuit is completed in the same way as in Bardet's electrode, by the water the stomach contains.

This electrode might be aptly designated a "Deglutable Stomach Electrode." [3]

Method: The patient drinks, best when in a fasting condition, one to two glasses of water (tea, coffee, or beer). The patient has now to open his mouth widely, and the electrode (the capsule piece) is placed far behind on the root of the tongue and he is ordered to swallow. He again drinks some water, and the electrode finds its way to the stomach without any further assistance.

In order to recognize this point precisely, it is advisable to make some mark on the cord at a distance of 40 ctm. from the capsule; as soon as this mark comes to the teeth we are sure that the electrode is in the stomach and we can apply the electricity to the patient.

The other (ordinary) electrode is best placed either on the back to the left of the seventh dorsal vertebra, or in front at the epigastric region, or is simply held in the hand. In cases where the stomach and intestines have to be electrized, it is advisable to use as second electrode a very broad one (the so called "plate electrode"), and to keep it on the abdomen.

In withdrawing the electrode a resistance is felt at the introitus œsophagi; it is not advisable to pull the electrode with force. One has only to make the patient swallow once or twice, and to make use of the moment when the larynx, by this act, ascends and the passage becomes free, to withdraw the electrode, which is done now with perfect ease.

Direct electrization of the stomach by means of the deglutable electrode is very simple and handy for the patient and for the physician, and, as it seems to me, as easy to apply as percutaneous electrization. Considering the great rôle electricity plays in medicine as a therapeutic means, it has been perhaps to a certain degree neglected in the treatment of stomach and intestinal disorders, because a handy method for the direct electrization of the stomach was wanting.

I hope after a while to be able to give a detailed account of the physiological effects of direct electrization

[1] Duchenne: Cited from Kussmaul, l. c.
[2] Kussmaul: L. c.
[3] Bocci: Lo Sperimentale, June, 1881.
[4] Bardet: Bull. Gén. de Thérap., 1884, tome 106, p. 529.
[6] Charles G. Stockton: A New Gastric Electrode, MEDICAL RECORD, November 9, 1889, p. 530.
[6] Von Ziemssen: Ueber die physikalische Behandlung chronischer Magen- und Darmkrankheiten, p. 10. Leipzig, 1888.
[7] Ewald: Klinik der Verdauungskrankheiten, p. 64. Berlin, 1889.
[8] Charles G. Stockton: The American Journal of the Medical Sciences, July, 1890, p. 20.

[1] Boas: Allgemeine Diagnostik und Therapie der Magenkrankheiten, p. 239. Leipzig, 1890.
[2] M. Einhorn: MEDICAL RECORD, July 19, 1890.
[3] The Deglutable Stomach Electrode is manufactured by John Reynders & Co., 303 Fourth Avenue, New York.

of the stomach in man. To-night I would like to describe a few experiments which tend to prove that the gastric-juice secretion is increased by direct electrization of the stomach.[1]

The investigations have been made in the following way: Three persons not having any complaints in reference to their digestion were examined, when fasting, with the tube, in order to see whether the stomach was empty or not, and if not, then it was emptied. Thereupon each one of them drank 100 or 160 c.c. of water and swallowed the stomach electrode, electricity, however, not being applied. After ten minutes the electrode was withdrawn and the stomach contents emptied by means of a tube, and examined in regard to hydrochloric acid and to the degree of acidity. Thereupon the same trial-subjects had to drink again the same quantity of water, and the stomach was now faradized (the deglutable electrode being in the stomach, the other in the left hand) not very strong for ten minutes; then the contents were obtained, examined, and compared with the first portions.

The trials were as follows:

I.—T. N——, physician, twenty-eight years of age; September 10, 1890; when fasting; stomach empty.

1. Drinks 100 c.c. of water and swallows the electrode. After ten minutes the electrode is withdrawn, and about 50 c.c. of the stomach contents are obtained. Reaction = acid; HCl + weak; acidity = 12.

2. Drinks 100 c.c. of water, swallows the electrode and gets faradized for ten minutes. The electrode is thereupon withdrawn and 40 c.c. are obtained by means of a tube. Reaction = acid; HCl + ; acidity = 16.

II.—T. S——, fifty years of age; September 23, 1890; when fasting; stomach contains about 5 c.c. of mucous secretion, with presence of HCl.

1. Drinks 160 c.c. of water and swallows the electrode. Ten minutes later the electrode is withdrawn and 140 c.c. obtained. Reaction = weakly acid; HCl with Congo = no reaction, with Günzburg's test = ?; acidity = 4.

2. Drinks 160 c.c. of water and is faradized. After the swallowing of the electrode, for ten minutes the obtained quantity = 170 c.c. Reaction = acid; HCl, Congo paper turns blue on the margin, Günzburg's test = + (even when twice diluted); acidity = 8.

III.—H. R——, twenty-two years of age; September 24, 1890; when fasting. There were obtained 3 to 5 c.c. of stomach secretion, with H Cl = 0.

1. Drinks 100 c.c. of water, and swallows the electrode. Ten minutes later there were obtained by the tube — 80 c.c. HCl + ; acidity = 8.

2. Drinks 100 c.c. of water, and is faradized. After swallowing the electrode for ten minutes the obtained quantity = 100 c.c. Reaction = acid; HCl + ; acidity = 12.

In all three experiments we find a higher degree of acidity in the second part of each trial, when faradization was applied, than in the first part, during which everything had been done just in the same way minus electricity. The conclusion that the faradic current increases the production of the gastric juice, therefore, seems to be justifiable.

As to the clinical cases treated after this method of direct electrization of the stomach, I would not like to trouble you at present with detailed accounts. However, I cannot abstain from giving you in a few words a *résumé* of my clinical experiences since September last.

The direct faradization of the stomach has been applied in:

(*a*) Three cases of hyperacidity; (*b*) five cases of dilatation of the stomach (caused by insufficiency of the motor power); (*c*) five cases of chronic gastric catarrh (or, more correctly, of gastritis chron. gland.) with diminished acidity; (*d*) one case of atrophy of the mucous membrane of the stomach.

[1] Remark. As regards the physiological action of direct electrization of the stomach in man, there have been as yet, so far as I could see from the literature, no investigations made.

The galvanic current has been applied internally in two cases of very severe gastralgia.

The most marked results have been obtained in all cases of dilatation, and in the grave cases of chronic gastric catarrh. The ameliorated condition was not only a subjective one, but could often be proven also objectively by the change in the chemical analysis of the stomach contents. In two cases of very aggravated chronic gastric catarrh, in which free hydrochloric acid could never be found after the test-meals, the same could easily be detected after the stomach had been faradized internally for ten minutes.

The majority of cases of hyperacidity (not combined with dilatation) likewise showed an improved condition. Here, by electricity alone, I seldom succeeded in diminishing the abnormally high degree of acidity. In order to fulfil this purpose I had to give the alkalies in the usual way.

The two cases of pure gastralgia showed an amelioration from the constant current, *i.e.*, first a decrease and then a disappearance of the attacks of pain, after the current had been applied for about two or three weeks, although it is certainly impossible to say for how long after such an electric cure the gastralgia will not reappear.

From the above it is evident that we possess in the direct electrization of the stomach a very potent means of overcoming certain abnormal conditions, and thereby permitting the functions of the stomach to adjust themselves to the normal. Let me, therefore, hope that this easy way of applying electricity directly to the stomach by means of the deglutable electrode, will tend to bring this remedy more into use among the medical profession.

120 East Sixty-Fourth Street.

STUDIES ON THE INFLUENZA AS OCCURRING IN RUSSIA.

By C. A. SIEGFRIED, M.D.,

Surgeon U.S.N.

Under instructions from the French Minister de l'Instruction publique, Professor M. J. Teissier, of the Lyons Faculty of Medicine, has collected a number of documents and writings upon the late epidemics of influenza, or grippe, as observed in Russia, and has published a *résumé* of his report in the January number of the *Annales a Hygiène publique*. The *Revue Scientifique* of April 11th also contains a synopsis of these reports, official and otherwise, of much interest from the many facts brought together and the hypotheses regarding the etiology of the at present widely prevailing, yet still unknown, disease.

It may be said that the two opposing views regarding the etiology of influenza—one in favor of purely physical causes, meteorological, the other a bactericidal—are both seemingly based upon good grounds. Yet those believing in a primary bacterial cause can reasonably and analogously explain the ordinarily observed tracks of the disease, even though there are instances of ships far at sea taking the epidemic disease by the communication of ordinary intercourse; and the wide stretches or jumps occurring are not inconsistent with the known facts of germ transmission in air-currents, the wafting of organisms over wide areas of sea and land having been observed since the time of Ehrenberg.

When we see so much written upon the diplococci, the streptococci, and the pus organisms, in connection with influenza, and with so much vulnerable method and report, one gains very little that is original, for these organisms can be found in the majority of cases of disease of the lungs and air-passages, and even in the comparatively well. Besides, streptococci means nothing more definite than small cocci in chains, which may be variations of one organism according to environment; or, according to Klein, any one of the seven or eight varieties he has apparently isolated in his recent studies on the exanthema

tous fevers in connection with such diseases as foot-and-mouth disease and diphtheria in cows and cats. Klein believes that eventually we will be able to differentiate the streptococci, and that varieties of this organism will be found to be the cause of scarlatina, variola, and the simpler forms of exanthematous fevers.

It would seem to be highly probable that the primary cause of influenza or grippe is an as yet unknown obligate parasite—obligate in the sense of not having been cultivated outside the human body—apparently needing the influence of unusual meteorological changes and conditions for its potential development. In conjunction and mutual reaction with it is observed unusual malignancy of several of the commonly known organisms ordinarily infesting the mouth and air-passages and which multiply disastrously in the various structures of the body on these occasions. On this hypothesis the diverse symptomatology of the disease becomes at least clearer, and the following notes furnish much affirmative evidence.

In the Russian very widely spread epidemics of 1889–90 there was observed no great difference from former great epidemics, though some observers state that there was somewhat less malignancy than in the epidemic of 1847, in which were very many cases of cerebro-spinal meningitis complication. If there were any doubts in diagnosis it was only in the first days of the epidemic, at which time many cases were of the nervous form, but shortly the medical faculty pronounced it "La Grippe." Some eminent men make the distinction and say there is no identity between grippe and influenza and some other infectious diseases. And again, in certain countries there is some confusion owing to the contemporaneous existence of dengue. MM. Herman and Kuznetzow speak of a certain resemblance between dengue, as observed in 1889 in Syria, Turkey, and the Isles of Greece, and grippe, both in its mode of propagation and its manifestations. Like grippe, dengue suddenly attacks whole communities—in Smyrna thirty thousand in a few days; it begins with great heat, head symptoms, nausea, vomiting, and violent general pains, and declines in three or four days by lowering of temperature and abundant perspiration. The difference, however, is marked by the, in dengue, joint-pains, knees particularly, and an eruption, either scarlatiniform or rubeoloid, and desquamation. But in some rare cases of grippe pains in joints and knees and the scarlatiniform eruption are noticed. The essential distinction, however, in the two diseases consists in the difference of the means of propagation, the grippe invading cold countries and dengue tropical and subtropical countries. The contagiousness of dengue is not of diagnostic value according to the above observers. they being believers in the probable contagiousness of grippe or influenza.

M. Herman, of St. Petersburg, reports the grippe of 1889 as coming from Siberia, as on previous occasions. Professor Jansen thinks the evidence as to this incomplete. M. Heyfelder believes it came from Bokhara, the first case being observed there in May, and it then travelled westward into Russia in Europe along the new railways. He reports cases among employees of the government railways, characterized by all the well known symptoms, some accentuated by intensity of nerve phenomena, delirium, depression, nausea, and offensive perspiration. As early as June half of the population had been attacked. Among the complications observed in Bokhara were hemorrhages and such severe purging and spasm as to simulate cholera Asiaticus. Heyfelder, observing similar cases in St. Petersburg, affirmed their identity, and notes also the limited number of catarrhal phenomena in the Bokhara cases. He cites the appearance of the epidemic at Viatka by October 1st, at Tomsk, October 16th, where it was known as "Siberian fever." It was then reported along all the post towns and stations in its extension westward to St. Petersburg.

All of these Russian accounts are highly interesting, in that the epidemic is fully and accurately observed in its appearance, rapidity of diffusion, and general notable tendencies. There is a concurrence as to its origin in Asia in the early summer of 1889, and by September it prevailed in St. Petersburg and Moscow. It is also asserted that sporadic cases prevailed in lower European Russia in April of the same year (?). The official documents are in accord in recognizing the endemic character of "la grippe, or influenza," in Russia. The reports of departmental medical officers, to the Minister of the Interior state the existence, in 1886, of 52,570 cases of grippe, and in 1887, of 43,943. From the sanitary statistics of the St. Petersburg & Varsovie Railway for the years 1885–1888, it is shown that fifty per cent. of the cases of illness among their employees (who are particularly exposed to the influences of contagion) were due to grippe. These facts go far toward establishing the contagiousness of the disease. Thus it appears that grippe, or influenza, has long been an endemic disease in Russia and countries under her control. "Siberian fever," "Mal Russe," etc., are names common for it in those countries.

M. Lipski argues that purely physical causes play an important rôle in the rapidity of its propagation, and mainly great temperature variations and the direction of the winds. In most epidemics it has been observed that great perturbations of weather have preceded them. Impure water supplies and the presence in the atmosphere of unusual forms of micro-organisms of a pathogenic character are dwelt upon. A series of low barometric pressures, with cold, has marked the commencement of many epidemics; yet exceptional instances are known in which the reverse conditions prevailed, but with an influence on the mortality rate of a favorable nature. Low pressure with abnormal heat has been noted. In all epidemics low pressure with persistent abnormal temperature and great humidity have been noted. Cessation of epidemics has always occurred with the advent of snow in regular seasonal change, in which French observers concur.

Studying the bearing of the water supply of cities and towns affected some remarkable facts are brought out. The water of the Neva contained, in November, 1889, 15.50 parts per 100,000 of organic matter, in place of 10 parts per 100,000 in September. In Varsovie the water of the Vistula contained twenty-one millions of bacteria per litre during the October preceding the epidemic, the figures declining to 1,008,000 per litre in November, and still less with the cessation of the disease in December. Further, the analysis of the waters did not establish any noteworthy facts.

According to the minute researches of M. Baboukhine, relative to the air of the Moscow hospitals and the water supply of the city, he demonstrated, in 1889, the unusual presence of the streptococcus of erysipelas, also numbers of usually absent colonies of bacteria. In 1888 and 1890 he observed no such peculiarities, and the singular fact of such concomitant conditions in 1889 is remarkable. His methods of procedure and analysis were uniform for the three years.

M. Teissier believes that impure water is an etiological factor of importance in influenza, noting that in the quarter of St. Petersburg where the supply is poorest—a water rich in bacteria, though otherwise the hygiene is fairly good—influenza always appears first. In Moscow and Varsovie similar facts are brought out, the poorer inhabitants along the river banks being the chief and worst sufferers. In the house of the French Consulate in Varsovie, situated in the midst of the epidemic area, no cases occurred, the water supply being pure and the same as supplied Gatchina, where no influenza existed until the arrival of a case from St. Petersburg, a perfect example of infection of a whole community by a single case. At Moscow, a mill employing two hundred hands had only a few and mild cases, the water supply being from deep artesian wells, whereas in a similarly situated mill using the common city supply of water the epidemic had full sway. The workmen in both mills were living in similar

unhygienic surroundings in their homes, the only difference being in the water supply. In the province of Kiew M. Losch finds the first cases among the inhabitants of the low-lying river banks of the Dnieper.

Two questions or propositions stand out clearly from these Russian accounts—the apparent means of propagation and diffusion of the disease and the relation or connection with other infectious diseases.

Most Russian medical men are disposed to admit the contagiousness of influenza from the number of highly attesting facts they can adduce. At the Wurtzburg clinic, cited by Leube, the entrance of a single case infected a whole ward; and at Kharkoff, MM. Herman and Kuznetzow report many examples. Zdekauer narrates that at Gatchina, where not one case had yet been known, a high military personage arriving was the same evening in his bed with severe influenza, and from that day all his suite and attendants gradually became ill, as well as the military men who came to advise with him. M. Jansen's writings seem to establish the contagious character of the disease, as well as its mode of propagation and diffusion by the ordinary methods of communication by sea and land, and from the secondary points of departure, laterally, from the common great track of the epidemic. From St. Petersburg and Moscow it rapidly went to Odessa, Varsovie, and Stockholm—all cities in direct communication with the capital and Moscow. In less than a week it appeared in Berlin and Paris, and from Stockholm to Christiana it required a month; rapid communication in the first place, a mountain barrier to overcome in the second. Once established in Berlin, Paris, and Vienna, it spread from those centres, like rays, in all directions. In early January, 1890, the highest mortality centres were in Paris, Kiel, and Vienna, a week later they had moved to the great centres of population of Great Britain, France, Spain, and Austria.

During the epidemic in St. Petersburg and Varsovie, other infectious diseases were nearly unknown. At Moscow, however, scarlatina and the other exanthems gained increased intensity and virulence. Erysipelas seemed to become almost epidemic at many points, concurring with reports from France. This is not simply a coincidence, but quite in accordance with observed facts in connection with bacterial infective diseases.

The official commission appointed for the purpose of studying the possible relation of cholera and influenza epidemics to each other concluded that there were no grounds justifying such a belief; and independently other observers, notably Smolenski, reached similar conclusions. This question was brought up in view of the facts observed in 1847, 1851, 1856, and 1865, on which occasions epidemics of cholerine regularly followed grippe. Smolenski showed that for six hundred and fifty years influenza could not be the precursor of cholera in Europe, since the latter disease was unknown for that time. In a number of years influenza and cholera were coincident, either preceding or following, oftener cholera following. From 1838–1845 there were a number of influenza epidemics and no cholera, and from 1869–1875 epidemics of cholera and no influenza. The great Asiatic cholera incursions or invasions of Europe of the years 1829, 1830, 1852, and 1865 were not preceded by influenza.

Quoting Smolenski still, the fear of cholera in 1890 was due to its existence in Persia and Mesopatamia in July, 1889. Cholera has appeared in Europe six times; in 1823, from Persia; 1829, from Turkestan; 1830, 1846, and 1852, from Persia; and in 1865 and 1884 by the Mediterranean ports. Each time, excepting only the first, these epidemics continued several years, and spread over Europe. Since 1883 Russia is in fear of cholera from both the east and west, and excepting the slight epidemic at Vladivostock, has thus far escaped. For thirty-seven years, however, the disease has not entered Europe from Persia. Most authorities confirm Gluge, who wrote in 1837 that cholera following the influenza in 1830 was simply a coincidence.

If the p... not yet been ... genetic elements of grippe, or influenza, have doubt. On the whole their existence is not left in much by these collected reports to considered as demonstrated disease is added to or associated micro-organism of the elements, such as the streptococci, secondary parasitic pneumonia organisms, and which gives to the cocci, and clinical forms and characteristics, and determines its verse localizations and regional types. These secondary elements are of such importance as to dominate the symptomatology, and hence suggest precautionary means that may prevent or alleviate the intensity of the disease and obviate further complications. Phlegmonous inflammations, erysipelas, and pneumonias are intensified hence, as a result of commonly observed bacteria becoming augmented to a dangerous pathogenesis by the "intoxication grippale."

It is believed that upon the appearance of grippe unusual measures of public and private hygiene should be undertaken. The water and food supplies, the drainage, sewerage, clothing, and disinfection, general and personal, should all be attended to. Daily cleansing of the mouth and throat with a disinfectant lotion would be indicated.

The treatment by drugs did not much vary from that of other countries. Comparisons of clinical charts of cases, treated variously by drugs and without, showed no great difference. It was not demonstrated that any substance employed greatly influenced favorably any single feature of the disease. Most commendation and most observers favor sulphate of quinine as a remedy of real importance. Warm to hot baths in the early period of the disease are highly spoken of and, according to M. Manasseine, have an abortive influence.

The following table of drugs used in the empire, furnished by the Pharmacological Society at St. Petersburg, gives the treatment in synopsis.

	1888. Ounces.	1889. Ounces.
Sulphate of Quinine	2,470	6,185
Chlorohydrate of Quinine	1,016	2,178
Antipyrine	1,223	2,490
Phenacetine	330	487
Antifebrine	870	1,840

A THIRD SERIES OF PERITONEAL SECTIONS. COMPARATIVE STUDY OF ONE HUNDRED AND FIFTY-NINE CONSECUTIVE CASES.[1]

By HENRY T. BYFORD, M.D.,

PROFESSOR OF GYNECOLOGY TO THE CHICAGO POST-GRADUATE MEDICAL SCHOOL; CLINICAL PROFESSOR OF GYNECOLOGY TO WOMAN'S MEDICAL COLLEGE; GYNECOLOGIST TO ST. LUKE'S HOSPITAL; SURGEON TO THE WOMAN'S HOSPITAL OF CHICAGO.

The accompanying table of statistics represents a third series of peritoneal sections, continuous with two others previously reported to this Society.

Death Rate.—The first series contained forty-six complete and two incomplete operations, with a mortality of 17.08 per cent. for the whole number, or 10.85 per cent. for the completed operations. The second series contained fifty-seven completed operations, with a mortality of fourteen per cent. The present series contains fifty-two completed operations and two incomplete, with a mortality of 9.25 per cent. for the whole, or 5.77 per cent. for the completed operations.

It is interesting to note that all fatal cases but one occurred in the abdominal sections. There were in all forty-six completed vaginal sections, with one death, or a death-rate of 2.17 per cent. In one other vaginal section, I was unable to complete the operation for an intraligamentous ovarian cystoma, and then resorted to abdominal section with a fatal result. In one of the forty-six cases I was obliged to open the abdominal cavity to enucleate a large ovarian abscess while performing vaginal hysterectomy. The uterus was, however, removed

[1] Read before the Chicago Gynecological Society, April 17, 1891.

ried. This entirely per vaginam. The patient ...ominal section was a vaginal hysterectomy with...se, and is the only in- in addition done for another... are recorded for the same stance in which two ov...

patient on the ovariotomy.—My experience with ovarian

Abdom... been somewhat exceptional. If we exclude ...minal ovariotomies, the death-rate for all completed abdominal and vaginal sections in the three series would have been only seven and a half per cent. But the death rate for abdominal ovariotomies alone was twenty-two per cent. The explanation of this high percentage is found in the following facts: Of the thirty-five abdominal ovariotomies, ten were developed in the subperitoneal connective tissue, in one of which I had to leave a piece of the adherent capsule on the diaphragm. Nine cases, or over one quarter, were malignant, and six were dermoid, with seven dermoid tumors. In two of the malignant cases, and in one dermoid, the tumors were developed in the sub-peritoneal tissue. In the thirty-five cases all but ten were either sub-peritoneal malignant or dermoid tumors, or had intraperitoneal adhesions. Such a series could not be expected to give a low rate of mortality. My other abdominal sections were child's play to them. Another reason for the high death-rate is that I removed the smaller and less complicated ones by vaginal section, thus leaving the worst ones to be considered alone. On the other hand, I never lost a case of ovariotomy without adhesions, except the case of hemorrhage among the first ones.

Abdominal Oöphorectomy.—There are sixty-six cases of abdominal oöphorectomy in the three series, with four deaths, or six per cent. Three of these deaths were avoidable, and the mortality should have been but one and a half per cent. In the last series there were no deaths. Hysterorrhaphy was performed in four of these cases with the most satisfactory results.

Abdominal Hysterectomy.—Another interesting study to me has been that of the abdominal hysterectomies, of which there were fifteen completed operations, with one death, or six and two-thirds per cent., and three incompleted operations, all fatal. One of my greatest faults in my earlier operations was to operate upon everything, whether hopeless or not. The first hysterectomy reported in the first series was the first case I ever attempted. It was a large sarcoma with which another surgeon had refused to interfere after an exploratory incision. The operation lasted nearly four hours, and as I could not raise the tumor out of the pelvis, I had to amputate it on a level with the abdominal walls. The next incomplete case was the second hysterectomy I ever attempted. The right Fallopian tube contained half a pint of fluid and the left one a quart of fluid. I succeeded in amputating below the tumors, but could not get out the multilated left tube, which had burrowed between the folds of the broad ligament to the bottom of the pelvis. The other incomplete operation was in the last series. It was a sarcoma consisting mainly of two lobes, each of the size of a full-term pregnant uterus. It pressed against the diaphragm and liver, and extended down into the cul-de sac of Douglas. The bladder extended half way to the umbilicus. The omentum was adherent above, while below the tumor was developed in the broad ligament and firmly attached to the rectum. The bleeding was profuse. The patient died on the table. This operation, like the other two, did not exhibit its formidable character until it was too late to stop. In the last eleven cases I employed vaginal fixation of the stump, with ten recoveries and one death. Altogether I have now operated in fifteen cases by this method, with one death, or six and two-thirds per cent. My limited experience thus leads me to believe that abdominal hysterectomy for non-malignant cases is not the formidable operation it has been heretofore considered, and that its mortality should be but little higher than that of abdominal ovariotomy. The chief reason for the high death-rate is that the operation is seldom undertaken until the best time for an operation has passed. One of the most useful accomplishments of a gynecological surgeon is to be able to foretell at any early date the unfavorable progress of a fibroid tumor, so as to attack it early.

Notes of Interesting Cases.—I present the following notes of cases as of some interest:

1. Ovarian cystoma developed subperitoneally, filling pelvis. Unable to get it out. Tore into rectum. Profuse hemorrhage. Could not find all the sources of hemorrhage. Could not find either uterus or ovary. Exposed the left ureter. One Fallopian tube almost the size of a man's wrist, and filled with cheesy substance. Stitched the sac of one cyst in the external wound. Three drainage tubes, one to each side, and one to the cul-de-sac of Douglas. Time of operation, five hours. Could not close sooner on account of continuing bleeding. Death in three hours from shock and anæmia.

2. Myomotomy and oöphorectomy. Removed a subserous pediculated fibro-myoma size of fist, from a large fibroid uterus filling pelvis. Dug the enlarged appendages out of solid beds of intestinal adhesions. Amputated a large piece of diseased omentum. Attempted to enucleate the uterine fibroid mass from pelvis, but was obliged to desist and leave them. Morphia, gr. one-fourth, hypodermically six hours after operation. Commenced the administration of salines fourteen hours after operation and secured an evacuation eighteen hours thereafter. The patient would undoubtedly have died had I removed all of the diseased tissue. Is now in good health five months after operation.

3. Patient had pelvic abscess several years ago. Bedridden for three years. Found stump of left Fallopian tube entering a mass of matted intestines. Did nothing but remove the cystic ovary from right side, of which she had not complained, and separate the intestines on the ailing side, enough to learn that the left ovary was not there. Patient was told that everything had been fixed all right, and got up from the operation and went about like other patients. In other words the belief that all was right cured her of symptoms that had outlasted the disease by several years.

Drainage.—In the first series I drained ten times in twenty-seven abdominal sections; in the second series, twenty-four times in forty-one; in the third, twenty-five times in forty-four. Thus in one hundred and twelve cases, I drained fifty-nine times, or in a little over fifty per cent. This seems like a great deal of drainage, but is accounted for by the gravity of the cases. I drained in all cases when much bloody effusion was to be expected, and always gave drainage the benefit of the doubt. The only serious objection I found to drainage was the liability to hernia. I always use a glass tube, which is removed in twenty-four to forty-eight hours, and usually a strip of iodoform gauze put in its place for eight or ten hours.

The assertion so often made that it is dangerous to use the drainage-tube is very difficult to answer by argument. According to my experience it has not added materially to the risks, but is dreaded by me on account of the trouble it gives me in superintending it afterward.

Among my earlier cases two patients died of hemorrhage that might have been saved had the drainage-tube been used. The fault should be attributed, however, to imperfect methods of placing ligatures. In the last one hundred and forty cases I have had no accident from slipping of ligatures, and do not ever expect to have one again.

In all other abdominal sections I drained in every fatal case, but do not attribute one death to it. In two or three of the cases that recovered suppuration in the track of the tube occurred, but this I think would have occurred anyhow, and might have been of greater consequence without the tube. Of the fourteen fatal cases in which the tube was used, one patient died in three hours with incomplete operation; another in ten hours; one in three and a half days of ileus; another in eight days of heart

disease, five days after tube was withdrawn, and absolutely without pelvic symptoms; another of exhaustion after four weeks, in which the autopsy showed the abdominal and pelvic cavity to have escaped sepsis or other complications; and another from a sponge left in the abdominal cavity after a long emergency operation.

Of the eight remaining to be accounted for four died in forty-eight hours from the severity of the operation, and required the tube for the removal of abundant effusions from disorganized tissue. One of the remaining died in six days of extensive adhesive peritonitis without effusion or sepsis. The tube had been taken out the day before death and might have been removed previously, as the serous discharge had ceased.

The other three died of septic peritonitis; one in six days, three days after the tube had been removed, and because not enough rather than too much drainage had been used. It was for ovarian abscess that burst in the abdominal cavity, and a septic focus was found post mortem at a distance from the tube. One of the other two died in four days with purulent peritonitis developed under the incision above the tube, the parts about the tube were not thus affected. The only case in which I could see any connection between the drainage and the sepsis was that of a sarcoma, about the size of a six months' fœtus, which was injured at the operation and which could not be removed. The wounded area was under the incision and entirely shut off from the peritoneal cavity by a strip of gauze placed on it and brought through the adjacent incision. Death occurred in sixty-four hours. In other cases where I have slightly wounded a vascular tumor that could not be removed, I have disinfected and dried the wound by a momentary compress of Monsel's solution and water, one to four, and have then either placed omentum or abdominal wall over the area, and closed the abdomen as aseptically as possible.

But while I attribute only one death possibly to drainage, and that to an extraperitoneal piece of gauze, I am sure that I should have lost some that recovered had I not drained.

In vaginal hysterectomies I drained in all cases, and in vaginal oöphorectomies and ovariotomies in all cases with adhesions. Drainage is here quite safe if properly carried out. It is a mistake, however, to carry the gauze or drainage-tube high up into the peritoneal cavity, as this might give rise to sepsis, peritonitis, or ileus. The peritoneal cavity should be closed, except a small area at its bottom, and the gauze or tube placed as a rule only far enough up to reach the serous cavity and drain all that settles there. All stumps that are to slough off should be pulled down to or near this outlet.

Comparative Study of Fifty-four Peritoneal Sections.

	Operations.	Recovered.	Died.	Per cent. Recovered.	Per cent. Died.
Hysterectomy	10	9	1	90	10
Oöphorectomy	16	16	0	100	
Ovariotomy	11	10	1	90.91	9.09
Myomotomy and Oöphorectomy	1	1	0	100	
Nephrectomy	1	1	0	100	
Pelvic hæmatocele	1	1	0	100	
Drainage of abscess	1	1	0	100	
Exploratory incisions	2	1	1	50	50
Incomplete operations	2	0	2		100
Vaginal Sections.					
Hysterectomy	8	8	0	100	
Ovariotomy	1	1	0	100	
Total	54	49	5	90.75	9.25
Mortality for completed operations	52	49	3	94.23	5.77

Hernia.—Small hernias occurred in three cases: one oöphorectomy, one ovariotomy, and one hysterectomy with abdominal fixation of stump. In each case it occurred at the site of the drainage-tube or stump.

Salines.—I have used opiates very seldom, and salines quite frequently. One or two hyperdermics of morphia were sometimes required to keep the patient quiet during the first six or eight hours after the operation. Its bad effects were quite satisfactorily counteracted by a subsequent saline laxative.

I have not derived the satisfaction from the saline treatment that I have been led to expect. In two or three cases it seemed to increase the extent of the peritonitis, and in others it complicated the convalescence by inducing irritability of the stomach and bowels. In severe septic cases it was utterly useless. In tympanites laxative enemas often act more promptly and efficiently. But in ordinary cases with a tendency to intestinal paralysis and perverted secretions it acted charmingly, and is a valuable addition to the after-treatment of abdominal sections.

There is no doubt in my mind that our late beloved Professor Parkes was right when he said to us a few months ago in this room that the less we do to the patient after abdominal section the better. If they are going to get well they will, if not they won't.

INTERESTING MEDICAL CASES.

By HENRY A. RILEY, Esq.,
NEW YORK

Life Insurance and Eyesight.—The vagaries of life insurance are remarkable, and the miserable shifts some companies make to avoid the payment of policies would be laughable were they not the cause often of serious trouble to the families of the insured.

A curious case of the kind occurred not long since in Pennsylvania, where a person was insured against accidental death and permanent disability in the sum of $1,000. the policy providing, among other things, that the whole of the sum should be payable in the event of the "total and permanent loss of the sight of both eyes." Before the insurance was obtained the plaintiff had lost the sight of one eye, which fact was known to the general and to the soliciting agent of the company.

Subsequently the plaintiff lost the sight of the other eye, but the company refused to pay on the ground that he had not lost the sight of both eyes after the insurance was effected. The court refused to take this view of the matter, and directed that the judgment against the company should be affirmed. The opinion stated the decision as follows: "The loss of one eye to him was precisely the same as the loss of both eyes by an ordinary man. It is total blindness in either case. There is no provision in the policy for the loss of one eye, as there is for the loss of one arm or one leg. The reason is plain. The loss of one eye does not produce a 'total and permanent loss of sight.' For all practical purposes a man with one eye can still follow his occupation and gain his living, while the loss of an arm or a leg is a disability which seriously interferes with his ability to earn his bread; hence it was that the policy provided, or rather, defined, the 'loss of sight' as the loss of both eyes. It was the loss of sight which was insured against, and this was just as complete in the plaintiff's case as though both eyes had been lost during the life of the policy. Assuming that the company intended to insure the plaintiff against something, and that something was the loss of his sight, the most that can be said is that, having but one eye, the risk was increased; but the risk was not increased after the policy was issued."

The Value of Coroner's Juries.—The utility of coroner's inquests has been frequently called in question, and quite a number of well-informed people have at various times endeavored to abolish the office and duties of the coroner.

It must be admitted that at times the verdicts of the juries which are empanelled are of very little value.

Take, for instance, the case of the New Orleans mob which shot down in cold blood the Italians confined in the city prison.

The form of having an inquest was gone through, but it was hardly expected that the jury would do much toward helping on a prosecution of the offenders. The public sentiment of the city ran too strongly in favor of the lynchers to make it probable they would do anything more than express ignorance on the subject of the guilty men, although many of them were well known. This expectation was realized, for the jury decided that the Italians came to their deaths at the hands of unknown persons. In this case, at least, coroner's juries proved of very little value.

In another instance, however, the coroner and his jury have done a good deal toward unravelling one of the most perplexing of recent murders. This was the recent death of two persons, one of whom was found drowned in the water on the Staten Island shore, and the other committed suicide at the Astor House, New York City. It seemed for a time that the identity of the persons as well as the offender, in case the Staten Island corpse came to his death by foul means, would never be discovered.

It now seems fairly certain that the drowned man was Ruttinger and the suicide his friend Wright. It is quite doubtful also if the drowning was not a willing act, although it would seem that Wright helped Ruttinger by putting a gag in his mouth.

The credit for these discoveries rests with the coroner and the newspapers, which have been very active in the effort to unravel the tangled threads of doubt and mystery.

One curious circumstance about the affair is the appearance of a new character in criminal annals. This is the professional identifier, as one Perrin H. Sumner may be appropriately termed. He has been very active in attempting to prove the identity, not only of the Astor House suicide, but of another suicide in Yonkers. His statements have been so numerous and so contradictory, and his whole conduct so unexplainable, that he has been regarded with great curiosity by the police and by criminal lawyers. He is now charged with corruptly attempting to procure testimony to support his theories, and as a result is under arrest.

American Patent Medicines and Food Products in Europe.—It was reported some time since that Italy was about to adopt legislation which would very materially reduce the importation of patent medicines from this country, but whether this was from a desire to protect the health of the inhabitants or was a suggested measure of retaliation for the damage done by the McKinley Bill, was not readily apparent. The dislike of patent medicines would not seem to be confined to Italy, however, for there is said to be a Bulgarian law which provides that, if a remedy of this character is advertised to cure a certain malady and fails to do so, the vendor of the remedy is liable for damages, and may also be sent to prison for a limited period of time as a punishment for publishing an untruth to the injury of the public.

It has been stated on very good authority that the importation of American food products, especially that of pork, into Germany, was prohibited not so much as a health measure as part of the protective scheme of the government. The ostensible grounds for the prohibition were that the live and dressed meat of the American pig were not properly inspected in this country, and were liable to spread disease. Minister Phelps has been active in the matter and has shown conclusively that the system of inspection is rigid, and consequently the German Government has been obliged to raise the embargo. If it had not done this it would in fairness have had to acknowledge that the prohibition was a protective measure, which was a position it did not care to openly assume.

An English Shooting Case.—The following is the summary of a recent English case as found in a legal journal: "The defendant, who was one of a shooting party, fired at a pheasant. One of the pellets from his gun glanced off the bough of a tree, and accidentally wounded the plaintiff, who was engaged in carrying cartridges and game for the party. The jury found that the defendant was not guilty of any negligence in firing as he did."

EXTREME CASES OF PTERYGIUM.

By G. STERLING RYERSON, M.D., C.M., L.R.C.S. Edin.,

PROFESSOR OF OPHTHALMOLOGY IN TRINITY MEDICAL COLLEGE, TORONTO, CANADA.

The rarity of cases of pterygium involving almost the entire cornea is shown by the following passage from Dr. Noyes' new and admirable work:[1] It is conceivable "that the most suitable way of dealing with an extreme case might be to perform iridectomy downward and outward, and the removal of the growth would be optional. *But I have never seen such a condition.*" The italics are mine and are made use of to emphasize Noyes' statement. The following cases, illustrative of this condition, have come under my observation. A West Indian merchant, of English descent, was sent to me in the summer of 1882 for advice. I found that he had a large pterygium growing from the inner angle of right eye, extending over the pupil. The direct vision was nil. By looking well upward, he could, by peripheral fixation, read $\frac{1}{4}\frac{5}{0}$ Snellen. As the pterygium had covered the pupil, a dense scar would be left behind on removal, so that I did not think that ablation would benefit him. I recommended and performed a small iridectomy downward and outward, with the result of a very considerable improvement of vision. He returned a few weeks afterward to Jamaica, and I have not heard of him since.

The second case is still under care. An Indian from the Grand River Reserve was sent to me by Dr. Langrill, two weeks ago, with a dense pannus crassus of left eye, both outward and inward, so that only a tiny triangular portion of clear cornea was left below, and a somewhat larger one above. V.L.=fingers at four feet.

On the right eye was a large pterygium growing from the inner side across the cornea, and covering the pupil. There was a small one on the outer side. The vision was very defective. He could count fingers at ten feet, but was doubtful about the test-types, because illiterate.

I did small iridectomies upward in each eye with gratifying results. I did not attempt to remove the pterygia in this case, because so large a portion of the cornea was involved, and because the growths themselves were so large that it would have been difficult to find flaps to cover the denuded surface.

I might remark in passing that the operation to be preferred, in cases of moderate-sized growths, is Jalezowski's.[2] I have performed it a great many times and have never seen any ill results. I have also performed Szokalski's operation several times, but one case was followed by extensive sloughing of the cornea, and I have not done it since. In larger growths I have found Knapp's modification of Desmarres' operation of transplantation very satisfactory.

63 College Street, Toronto.

Micro-organisms of Meningitis.—The following is a list of microbes stated by Adenot to have been found as the cause of disease in different cases of meningitis: the pneumobacillus of Friedlander, the pneumococcus of Fränkel, the intercellular diplococcus of Weichselbaum, the streptococcus pyogenes, the staphylococcus pyogenes, the tubercle-bacillus, the bacillus of typhoid, the pseudo-typhoid bacillus of Neumann and Schäffer, and the pseudo-typhoid bacillus of Roux.

[1] Noyes: Diseases of the Eye. William Wood & Co., 1890.
[2] See Soelberg-Wells on the Eye, edited by Bull, American edition. 1883.

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & Co., Nos. 56 and 58 Lafayette Place.

New York, May 9, 1891.

THE STATE BOARD OF MEDICAL EXAMINERS.

THE *Buffalo Medical and Surgical Journal* is disappointed over the attitude of the New York weeklies toward the new Board of Medical Examiners. "The apparent grievance," it says, "of the MEDICAL RECORD is that the City of New York was not given the majority—or indeed any—representation on the State Examining Board, as announced in the newspapers. This is reviving the old sectional question that always springs up in the minds of some whenever anything is to be done in the way of making appointments; but, in this instance, we respectfully refer the RECORD to the Board of Regents of the University of the State of New York, where is vested the appointing power."

We are obliged to our esteemed contemporary for the reference; and are pleased to learn just where the trouble lies.

The Board of Regents of the University of the State of New York has been very much in print of late, to the great delectation of its secretary, who is an ingenious gentleman and much interested in the expansion of his functions. But we suspect that if things go on as heretofore the better the Board is known and the more it is expanded the less it will be liked. In the matter under discussion it is very well understood that the Board of Regents was very neatly handled by certain gentlemen, with the result that it appointed a Medical Examining Board very inadequately representing the profession of the State, and not representing the city of New York at all, where the chief part of our medical education is done. As a consequence the law is at once made unpopular, and a recent bill which was introduced to weaken it was promptly passed, meeting with but lukewarm opposition.

The medical colleges are no doubt delighted at the present turn of affairs, but the profession in general ought to and will feel strongly indignant at the stupidity and weakness of the Board of Regents.

We trust that our contemporary, the *Buffalo Medical and Surgical Journal*, knowing now where the trouble lies, will turn its powerful guns upon this Board, in the effort to persuade it hereafter not to be made a catspaw of by the astute politicians who run our medical colleges.

FOREIGN BODIES IN THE AIR-PASSAGES.

THE entrance of foreign bodies into the lower air-passages is not a very rare accident, especially in children, but it is always an alarming one. The danger depends, however, largely upon the size and character of the foreign substances. These are commonly fragments of bone, kernels of fruits and nuts, spears of grain, beans, peas, nut-shells, small stones, and coins. As the result of vomiting particles of food may enter the trachea, this accident being especially common in children and imbeciles (Riegel). Fragments of pharyngeal polyps, and of tonsils, teeth, pus, blood, and other results of local disease or surgical work in the upper air-passages may pass through the rima glottidis into the trachea.

Bryant records a case in which a piece of meat became impacted in the larynx, causing instant death.

Not long ago Wharton reported the case of a child of four who had got a large brass shawl-pin into its trachea which set up a fibrinous inflammation.

A bridegroom inhaled a rabbit-bone at his wedding-dinner. His honeymoon was interrupted by a combination of laryngo-tracheotomy and artificially induced emesis. St. Louis children seem to have a fondness for getting cocker-burs into the larynx. One physician, Dr. Glasgow, has seen and removed three of them. A patient of M. Godet's inhaled a leech and spat blood for twenty days, when he was relieved by a thyrotomy.

It is well known that in rare instances a foreign body may remain in the lungs for years and cause no symptoms. Dupuytren related a case in which a coin was retained for ten years, and Professor Gross had observed a case in which a bone was coughed up sixty years after it was inhaled! Such cases as these, however, mostly belong to older literature, before the time of the laryngoscope, and an element of doubt hangs about them. In recent times, Vainossy has reported the case of a tailor who got a needle into his lower air-passages and retained it there for ten months, when it was coughed up.

Foreign bodies in the air-passages are always very serious things for the patient, and call for courage, promptitude, and skill on the part of the surgeon. According to Mr. Durham's statistics, which include 636 cases, 41 per cent. die when no operation is performed, and 23 per cent. when surgical interference is undertaken.

Some addition to our therapeutic resources in late years has been furnished by cocaine and by the use of the O'Dwyer tubes, as shown in a case reported by Metzger.

The surgery of the trachea and bronchi has also become more perfect, so that most cases of foreign bodies in these parts can be successfully dealt with. The case of Dr. Bothwell, which is described elsewhere, was one of exceptional difficulty, owing to the fact that the foreign body was a cork that swelled and became tightly impacted.

MODERN DISCOVERIES OF NEW CURES.

WITH painful and patient pen we record the birth of a new treatment for phthisis, the sixth in four months. The hopeful author and discoverer this time is Dr. Tranjen, of Sistow, Bulgaria. He doesn't seem to have any front name, but that may be the fashion in Sistow. Professor Dr. C. A. Ewald writes a supplement to Dr. Tranjen's

communication and also publishes the details in all their rosy tabulated promise in the *Berliner Klinische Wochenschrift*, an organ for practical doctors. The refrain which Dr. Tranjen plays upon Professor Ewald's organ is like that of the other discoverers. We are having prepared lithographed forms for the benefit of future ingenious therapeutists in this same line. It will read like this:

"*Form* I.—Dr. —— has discovered a new remedy for phthisis. He reports . . . cases. The results have so far been very satisfactory. In early stages it produces decided improvement and sometimes cure. In later stages it does not do so much good, but sometimes causes remarkable improvement before the patient ultimately dies. Dr. ——'s new treatment promises to be a useful addition to our therapeutic armamentarium, and deserves further trial."

We shall be very glad to furnish "discovery blanks" of the above type to our clinical workers.

But meanwhile we had almost forgotten to say that Dr. Tranjen's new discovery consists in the hypodermic injection daily, for seven to ten days, of a solution of thymolo-acetate of mercury, at the same time giving the patients iodide of potassium. The results are accurately described in Form I. as above given.

A STUDY OF CONSANGUINEOUS MARRIAGES.

THERE is a little commune, known as Fort Mardick, on the extreme northern coast of France, where nearly all the inhabitants are related to each other, almost all of them having sprung from four families who settled the place originally. As their neighbors were of a different race and language (Flanders), it is very probable that most, if not all, of the early marriages in the community were among blood-relations, and even now twenty-four per cent. of the marriages are between cousins of not more than two removes. Such a community ought to furnish valuable material for the study of the effects upon the offspring of consanguinity among the parents, and, indeed, the study has been made by Drs. Louis and Gustave Lancry, a reference to which we find in *L'Union Médicale*, No. 24, 1891. These observers found that there had been sixty-three unions of this sort from 1882 to 1886, or more than twenty-four per cent. of the entire number—a very large proportion indeed, considering that the percentage for the whole of France is less than three. Inquiry was made concerning each of these families, with the result of revealing only two defects in the children. In one family there was a deaf mute, and in another an idiot. The deaf-mute had lost his hearing at the age of three years, but previous to that time had been able to talk as well as other children of his age. The mother of the idiot had met with a terrible accident whereby she nearly lost her life while she was carrying the child, a fact that would probably have been accepted as a satisfactory explanation of the defect in case the parents had not been related.

The Drs. Lancry also endeavored to learn what effect, if any, consanguinity had upon fecundity. They found that, of the total number of marriages in the commune between the years 1882 and 1886, 10.4 per cent. of the couples were sterile, while 4.3 per cent. had had but one child. Of the consanguineous marriages 16 per cent. were without fruit, and in 7.95 per cent. there had been one child.

As a result of their studies the authors come to the conclusion that the marriage of blood-relations tends to the diminution of the birth-rate, but that it has no prejudicial influence upon the children that may be born in such unions.

News of the Week.

A Case of Leprosy, in the person of a Greek pedler, is said to have been discovered in this city.

Dr. Sylvester H. Hunt, of Long Branch, N. J., died on May 5th, aged fifty-four. He was born in Troy, N. Y., and graduated in medicine at Jefferson Medical College.

Dr. W. H. Bolling, one of the most prominent physicians in the South, and Dean of the University of Louisville, died May 5th. He was fifty-one years of age.

Dr. Hobart Amory Hare has been elected Professor of Therapeutics in Jefferson Medical College, to succeed Dr. Bartholow.

The New Medical Law in France.—A new law regulating the practice of the healing art in all its branches has recently passed the French Chamber of Deputies. The first clause enacts that "no one shall be allowed to practise medicine in France unless he possesses a diploma of Doctor of Medicine granted by the French Government after examinations passed before a state institution of superior medical education." This provision abolishes the lower grade of practitioners known as *officiers de santé*, due regard being, however, paid to the rights of those who are already in practice, or who have entered as students with the intention of obtaining that qualification. Foreign medical men, whatever be their nationality, will be allowed to practise only after having obtained a diploma of Doctor of Medicine from the French Government. It may be questioned, in view of the above, whether the United States, or the States individually, ought not to forbid Frenchmen from practising in this country without first securing a local degree.

New Medical Law of Alabama.—The Penalty Bill, as it passed the Legislature, provides that any person practising medicine or surgery in that State without having first obtained a certificate of qualification from one of the authorized Boards of Medical Examiners of the State, shall be guilty of a misdemeanor, and on conviction thereof shall be fined not less than twenty-five dollars, nor more than one hundred: Provided, that this act shall not apply to any doctor practising medicine in Alabama who is a graduate of a reputable medical college, and who has complied with the law by having his diploma recorded by the Judge of Probate in the county in which he is practising.

A Cure for Snake-Bite.—Australian physicians are reporting many cases of successful treatment of snake-bite by the use of hypodermic injections of strychnia in doses of gr. $\frac{1}{25}$. The snakes that bite are the "death-adder" and the black snake.

An Epidemic of Typhoid Fever has been attacking Philadelphia. Since January 1st there have been 1,502 cases and 311 deaths. The cause is believed to be the polluted water supply.

Dr. John Frederick May, an eminent physician of Washington, died on May 1st, of pneumonia, in the seventy-ninth year of his age. He was a son of Dr. Frederick May, of Boston, who went to Washington in the early part of the present century. The son graduated from Columbia College, and after a long course of instruction in medicine and surgery abroad, returned to Washington. He was one of the reorganizers of the medical department of Columbia University, in which he filled the chair of Professor of Anatomy and Surgery for many years. His skill and learning received broad recognition. He was the first American surgeon that ever made a successful amputation at the hip-joint.

Medical Legislation in New York.—Governor Hill has approved the bill exempting from the action of the Medical Licensing Board all medical graduates who began their studies previous to the year 1890. Consequently the Board will have little to do before the year 1893.

Death from a Cork in the Bronchus.—Much interest has been excited by the case of an eminent Brooklyn clergyman, who died on Sunday last from the effects of a cork accidentally inhaled sixteen days before. When Dr. Bothwell first swallowed the cork, he did not think it a serious affair. His efforts to extricate the cork with his finger only pushed it further down, and he believed for a time that he had gotten rid of it for good. He preached two sermons next day without any great difficulty, and it was not till Monday evening that he decided to see his physician, Dr. Rushmore. The doctor did not consider the case a serious one, and only after the usual methods of removing foreign substances from the throat had all failed did he begin to be alarmed. Dr. Bothwell was taken to the hospital three days later, and while there three operations were performed. Tracheotomy was finally resorted to, and a flexible silver corkscrew was pushed through the windpipe and an attempt was made with it to draw the cork. This experiment failing, it was decided to remove portions of two ribs and cut the cork out of the bronchus, but the sufferer did not rally sufficiently to stand the shock.

Sanitation in the Great West.—Our esteemed countrymen of Colorado may not be thoroughly and profoundly educated in the science of hygiene or the art of administering sanitary laws, but they have a crude sense of what is needed in these matters which is often more effective than a health board ordinance. A telegram from West Denver announces that the police were summoned hastily to that place, on May 2d, where a mob was in the act of lynching a Chinaman named Wing Lee. The neighborhood has been unhealthy lately, and an examination was made of the cellars occupied by several Celestials. The filth and stench were frightful, which so enraged the people that they procured a rope and would have hanged this particular Chinaman had not the police patrol wagon put in a timely appearance on the scene.

Dr. Abraham Coles, of Newark, N. J., died recently in California, aged seventy-eight. Dr. Coles was a graduate of Jefferson Medical College. He was a man of wide learning and much literary skill, and was the author of various works in medicine, science, and literature.

Cannabis Indica in Colic.—Dr. S. Stewart, of Nebraska (*Journal of Comparative Medicine*), gives two-drachm doses of fluid extract of cannabis indica every fifteen minutes for colic, and his cases recover. He gives it, however, to horses with colic only.

Virchow's Seventieth Birthday.—Several of the pupils and admirers of Rudolph Virchow have united in appealing to the medical profession of the United States and Canada for contributions to the fund which is being raised in Germany, England, and, it may be said, throughout the world, as a testimonial to be given to Professor Virchow on his seventieth birthday. The German committee proposes that the fund shall be used in procuring a large, gold portrait medal to be presented to Professor Virchow. Bronze replicas are to be given to each member of his family and to certain scientific institutions. The balance of the fund is to be transferred to Professor Virchow, to be devoted to such purposes as he may see fit. We take pleasure in calling attention to the circular now issued by the American committee.

VIRCHOW TESTIMONIAL FUND.

The medical profession of the world has the opportunity of showing its gratitude to Rudolph Virchow on his seventieth birthday, October 13, 1891. It may well be said that there is no branch of medical knowledge which has not been made more fruitful through his labors. We appeal, then, with confidence to the physicians of our country, to send forth a tribute which shall represent worthily America's obligations. Contributions will be received by any one of the undersigned physicians:

D. Hayes Agnew, Philadelphia.	Alfred L. Loomis, New York.
Gustav Baumgarten, St. Louis.	William T. Lusk, New York.
William T. Belfield, Chicago.	Henry M. Lyman, Chicago.
John S. Billings, Washington.	William Osler, Baltimore.
H. C. Chapman, Philadelphia.	Wm. Pepper, Philadelphia.
Francis Delafield, New York.	George Ross, Montreal.
Wm. H. Draper, New York.	Nicholas Senn, Milwaukee.
Reginald H. Fitz, Boston.	Fred. C. Shattuck, Boston.
James E. Graham, Toronto.	J. Collins Warren, Boston.
Abraham Jacobi, New York.	Wm. H. Welch, Baltimore.

James T. Whittaker, Cincinnati.

State Care of the Insane.—A public meeting under the auspices of the State Charities Aid Association, was held on May 1st, at Chickering Hall, to commemorate the removal of over 2,000 insane persons from the poorhouses of the State, and the completion of legislation in their behalf whereby, after a contest of four years' duration, the poorhouse system of caring for the insane has been abolished, and the State assumes henceforth the entire charge and maintenance of her dependent insane. Among the speakers were Ex President Grover Cleveland, Bishop Henry C. Potter, and Joseph H. Choate, Esq.

German Congresses.—The Ophthalmological Congress will be held this year at Heidelberg, from September 13th to 17th. The Congress of the German Anthropological Society will meet at Dantzic, in August. Professor Bardeleben, of Berlin, has been elected President of the German Surgical Congress for 1892.

Society Reports.

American Medical Association.

FORTY-SECOND ANNUAL MEETING.

Held in Washington, D. C., Tuesday, Wednesday, Thursday, and Friday, May 5, 6, 7, *and* 8, 1891.

(By Telegraph to the MEDICAL RECORD.)

FIRST DAY, TUESDAY, MAY 5TH—GENERAL SESSION.

THE first general session of the American Medical Association was held in Albaugh's Opera House, the meeting being called to order by DR. D. C. PATTERSON, Chairman of the Committee of Arrangements, at 10.30 A.M.

After prayer by the REV. DR. S. M. NEWMAN, pastor of the First Congregational Church, the Chairman introduced the HON. JOHN W. ROSS, one of the Commissioners of the District of Columbia, who delivered an

Address of Welcome.—Mr. Ross said that he was honored in having been called upon to welcome to Washington a medical society such as this one, the like of which was to be found in no other land. The membership of the Association was recruited from an entire continent, representing almost every possible variety of climate and of conditions affecting the health of the human race, and from this fact it resulted that the accumulated experience of all the associates was more valuable, from its scope and variety, than that of any other national organization in the world.

Professional Secrecy.—One of the important objects of a society such as this was the securing of necessary legislation on medical matters. It was a curious fact that the sacredness of the relation between counsel and client was recognized in common law, and the counsel's lips were sealed as to all matters learned by him from his client; yet there was no recognition in common law of the corresponding relation between physician and patient Many of the States had enacted such laws, but in the District of Columbia the common law prevailed, and the speaker suggested that Congress be asked to pass an act whereby the veil of secrecy might be drawn over the confidences of the patient with his medical adviser.

The Hippocratic Oath was sublime in its high conceptions of the work and moral character of the physician, and the modern Christian physician should exceed these conceptions of the Pagan moralist; he should be the highest exemplar of the honorable man, and he is this and more—he is, by his courage, his sympathy, and other noble traits, an exemplar of the highest Christian morality.

Washington the Permanent Home of the Association.—In no city in this country could an American feel so at home as in Washington, where he felt that he was part owner of the Capitol, the parks, and the public buildings that grace the city. There was no other place where American physicians could meet and feel that they had so well the right to meet, and he hoped that the Association would make Washington its permanent place of meeting.

The ex-presidents of the Association were then invited to seats on the platform, after which Dr. Patterson welcomed the members in a few well-chosen words, and then introduced the President of the Association, Dr. W. T. Briggs, of Nashville, Tenn.

The President's Address.—DR. BRIGGS said that medicine was the true connecting link between science and philanthrophy, and that the gentlemen here present were assembled for the sole purpose of promoting science and the good of humanity. In this age, which is preeminently that of progress, medical science has been no laggard, but has kept pace with, if it has not actually outstripped, all the other sciences. The need that was felt for the co-operation and associated action of all the physicians of the country was what had led to the formation of this Association. A few of those present at the organization of the society were still left, and pre-eminent among them all was the venerated father of the Association, Dr. N. S. Davis.

The Unification of the Profession is one thing that has been accomplished by the Association, for it has established an *esprit de corps* through the Code of Medical Ethics. This latter is the written law of the American medical profession, which holds sway and compels obedience from ocean to ocean, which has elevated this profession in public estimation, and which is the great barrier between the sheep and the goats. Every physician should make this Code the talisman of his life, and every honorable man should be willing to be guided by its every article. Yet there were many men, some of them among the most distinguished of the American medical profession, who had a great repugnance to some of the provisions of this Code, and who had repudiated its authority. Can they affirm, he asked, that their motives for such action were pure and unselfish? Everything possible should be done to lead these men to bury their prejudices and to come back into the fold.

Medical Education.—One of the chief objects of the organizers of the Association was the improvement of the means for medical study in this country, and the elevation of the standard of medical education. A committee for the promotion of this object was early formed, and worked hard and faithfully for many years with seemingly indifferent success. Yet there has been a gradual improvement all through these years, the good seed was sown which was now beginning to fructify. At the present day the facilities for medical instruction in our country were equal to any to be found elsewhere, and the graduates of our medical schools were the peers of medical men in other lands, excelling all others, indeed, in surgery, as the leaders of the profession in Germany and elsewhere had freely testified.

A Qualification for Membership in the Association.—It was undoubtedly due to the efforts of this body that medical education in this country was where it now was, and now that the medical colleges of the land were ready to adopt the suggestions of the college association made last year in Nashville, Dr. Briggs thought that it would be eminently proper to refuse the privilege of membership to all who should hereafter be graduated from, or be professors in, colleges not coming up to the standard.

More Science and Less Business.—The President then spoke of the amount of time consumed in the routine business at the general meetings of the Association. This business is shaped, as a rule, by a few members only, and he suggested that all such matters be referred without discussion to a committee of two members from each State, and that this committee should deliberate upon the questions and report back their conclusions to the general body for approval and ratification. In the meanwhile, the time of the general sessions could be devoted to the discussion and consideration of living scientific questions, by men appointed for this purpose at the preceding annual meeting.

Section of Original Research.—He thought that it would be wise to bring forward again the question of prize essays, which had been allowed to lapse. This would stimulate original research, to which, it must be confessed, American physicians have not devoted as much time as could be desired. We have labored under the possible disadvantage of not being able to obtain government aid, such as is given to workers in other lands, and it was all the more necessary therefore, that private enterprise exert itself to promote the prosecution of scientific investigation. As a step in that direction he would suggest the formation of a section for original research.

An Editor with a Salary.—DR. BRIGGS then spoke of the usefulness of the *Journal* of the Association, and of its superiority over the volume of transactions formerly issued; but it must be admitted, he said, that it has never

come up to the ideal standard of excellence that such a publication ought to maintain. In order to attain this excellence money was needed, and he thought that at least $75,000 or $100,000 should be raised in order to provide a sufficient income. Next to the question of finance was that of editorial management. The editor should be a learned physician and one experienced in editorial work, who could devote his entire time and attention to the paper. He should have absolute control of the *Journal*, and should be empowered to spend money liberally in order to secure the most valuable contributions to medical literature from all sources. To such an editor an annual salary of not less than $10,000 to $15,000 should be paid. Every member of the organization ought, in the words of General Jackson, to "swear by the Eternal" that the *Journal of the American Medical Association* shall be equal to any similar periodical published anywhere in the world.

On motion of Dr. Culbertson, of Ohio, a vote of thanks was extended to the President, and a committee was appointed to consider the suggestions made in the address and to report thereon at the final session on Friday.

The Secretary then read invitations for the members to visit the Government Hospital for the Insane and the grounds of the Jockey Club.

The Report of the Trustees of the Journal was then read. The trustees had recommended that the publication office of the *Journal* be removed from Chicago to Washington, but had thought best to ask the members to express their opinions on the matter through the columns of that paper. These opinions had been so overwhelmingly in favor of keeping the office where it is, that the trustees had acquiesced and would recommend no change. The discussion had brought out expressions of bitter sectional antagonism, which was to be deprecated; yet it had resulted in good to the *Journal*, and in reawakening the interest of the members, which had begun to grow cool.

To Change the Day of Meeting.—Dr. Gihon, of the U. S. Navy, brought up the amendment to the constitution changing the day of meeting to the first Wednesday in May or June, instead of the first Tuesday as at present. He thought that such a change would give more time to members to register and so become entitled to vote at the first general session, and would also allow of time before the assembling of the Association for meetings of various other medical societies. On motion, action upon this amendment was postponed to the next general session.

Rush Monument Committee.—Dr. Gihon then read the report of this Committee. He reported progress—very slow progress—so slow, indeed, that instead of the seven years that the Committee had been at work, seventy times seven would be needed before Dr. Rush's memory could be perpetuated in imperishable bronze.

Philadelphia was not Liberal.—The speaker said that the Committee had resolved to send "coin cards" to physicians, so that each one could send by mail a fifty-cent piece. One of these "coin-cards" with a stamped and addressed envelope had been sent to each of some seventeen hundred physicians in Philadelphia, and enclosed was a letter setting forth the object of the appeal, saying that the trial of this new method was made in Philadelphia since that was the home of Benjamin Rush; that upon the success of this final appeal would be based the decision of the Committee to approach other members of the profession in the same way, and begging each one to send a check, a dollar bill, a fifty-cent piece, or a reply that he did not care to contribute. As a stamped and addressed envelope was enclosed, it was confidently hoped that answers would be received from all, but to the 1,700 letters sent there were but 160 replies. The cost of postage, coin-cards, folding, and addressing was $95, and the amount received was $155.50. The Committee was disappointed in Philadelphia.

The Report of the Treasurer showed a balance in the treasury of $9,427.21.

Wanted: Some Dermatologists.—Dr. L. D. Bulkley, of New York, Chairman of the Section in Dermatology and Syphilography, said that he had been working for four years to organize the Section, but hitherto there had been no attendance. This year he could not find his secretary, had been able to secure but two papers, did not know where to look for members of the Section, and thought they had better give it up. It was moved, later, that two members of each of the living sections be appointed a committee to reorganize the Section on Dermatology, and to improve the other sections.

A Secretary of Public Health.—Dr. Comegys, of Cincinnati, moved for the appointment of a committee to consider the advisability of presenting a petition to the next Congress for the creation of a new executive department of public health, the chief of which should be a cabinet officer.

A Continental American Medical Congress.—Dr. Reed, of Ohio, moved that an invitation be extended to the medical profession of the Western Hemisphere to take part in a Pan-American Medical Congress to be held in the United States, and that a committee be appointed to consider the matter.

A Medical Temperance Society.—Dr. N. S. Davis, of Illinois, announced that there would be a meeting of physicians interested in the subject to establish a national medical temperance society after the model of the British society which had been organized to promote abstinence from alcoholic beverages.

Stenographic Reports of Section Work.—On motion of Dr. Reynolds, of Kentucky, the supervising editor of the *Journal* was instructed to secure stenographers to take verbatim reports of the proceedings of the different sections.

A recess of fifteen minutes was then taken to allow the delegates from the different States to appoint members of the nominating committee. After the reading of the names of this committee and the announcement of the place and time for its meeting, the session was declared adjourned.

Second Day, Wednesday, May 6th.

The session was called to order by Dr. Patterson. The prayer was made by the Rev. Father Richards, President of the Georgetown University.

Address in Medicine.—Dr. E. L. Shirley, of Detroit, Mich., then delivered the annual address on general medicine. He would confine himself, he said, to a consideration of micro-organisms and toxines, and to the diseases associated with them—the infectious diseases—but owing to the limited time at his disposal he would venture a few remarks only of a very general character. Unfortunately as yet we cannot speak with absolute certainty of the nature of the relation existing between micro-organisms and disease, for the two bases affording the support for our argument, namely, laboratory experiments, and clinical observation, are not always in accord, but rather at times seem even to be contradictory.

The Difference Between Life and Death is only a molecular one, and, as has been well said, "I change but I cannot die." The speaker then read an exhaustive catalogue of all the numerous substances entering into the composition of the human body, and of many of the products of vital processes which had been isolated in the different secretions and excretions. Some of these products are exceedingly noxious to the animal organism, being capable, when present in even minute quantities, of exerting a very deleterious if not fatal action upon the vital processes. It is no wonder, therefore, that the equilibrium of health is often upset with such apparent ease, and by such seemingly trivial causes. The changes which we find are those of metabolism and cell-proliferation. Some have asserted that biological are not distinct from chemical processes, but this view is incorrect, for though they are similar we are forced to recognize a certain dif-

ference between them. All the tissues are not equally liable to change from external influences, but possess a varying degree of resistance, varying not only between the tissues of different structure, but in the same tissues at different times.

How Changes Occur.—As yet very little is known positively of animal chemistry, but we know indeed that electrical energy is capable of exerting a marked effect upon living tissue. It is undeniable also that the influence of the vaso motor system over the composition of the blood and over nutrition is potent, for this is proven conclusively by both experiments and clinical facts. Protoplasm, the basis of life, the main substance of cells, is a complex substance that is capable of undergoing great changes, many of which are as yet but imperfectly understood.

Many so-called inflammations are really blood diseases, and by no means local affections. Absorption of ptomaïnes from the intestinal canal is perhaps the true cause of certain pyrexias which are sometimes miscalled malarial troubles.

The question of fermentation caused by the action of microbes is still an unsettled one, but it is certain that these minute organisms are the cause in some way of the elaboration of many toxic substances. The author then related certain experiments which he had conducted, which proved that tubercle-toxine was antagonistic to protoplasm.

Bacteria or their products cause certain diseases, the zymotic diseases, but it is a question whether they do so by their local growth, the action of their secretions, or by inducing certain chemical changes of a destructive character. Yet the mere presence of the pathogenic microorganisms will not cause disease, for most microbes are destroyed by healthy tissues. There must first be some local change by which there is formed a favorable nidus for the growth and development of the micro-organisms. Tubercle bacilli are almost always present, yet we do not all suffer from tuberculosis. The pathogenic bacteria develop only when they light upon a soil which is suitable for them, and then they give rise to the production of certain toxines which act as a poison to the animal organism. Their etiological rôle is a mediate and not an immediate one.

The Therapeutic Indication afforded by this theory of the causation of zymotic disease is an evident one—it is to destroy the bacteria and to neutralize their action. The toxic effect of the tubercle bacillus can be neutralized by certain chemical substances, and it is along this line, Dr. Shirley thought, that the treatment of diseases of this class must be carried out. There seems to be a sort of antagonism between the animal and the chemical poisons, and the speaker believed that the time would come when we could neutralize the animal poisons within the organism without prejudice to the life of the individual.

The Hypodermic Method is the Best for the administration of remedies for this purpose, since there can be no certainty of the action of drugs introduced by the mouth and subjected to the influence of the various secretions of the digestive tract. The speaker desired to awaken in the minds of medical men a greater interest in physiological and pathological chemistry, for in this way only could the art of therapeutics be released from the prison of empiricism.

The speaker delivered his address in a rather low tone of voice, and as there was considerable noise in the hall, he was only indistinctly heard by many of the large audience present.

The address was referred without debate to the Committee on Publication.

The Report of the Librarian was then presented. The necessity of more ample accommodations for the library was dwelt upon.

Some Dermatologists Found.—It was announced that the Section on Dermatology would hold a meeting in the afternoon, two papers and two discussions having been promised.

Owing to the absence of the chairman there was no report from the Committee on Dietetics.

The vote on the amendment to the Constitution which had been made the special order for this morning was then called. Dr. Gihon said that he had tried to express himself clearly in his remarks made when the amendment was introduced, but from the criticisms upon it which he had heard made, it seemed that he had not been understood. It had been said that it was not always possible to express one's thoughts with absolute definiteness in the English language, and perhaps he would have done better had he written his speech in Chinese. He said that he had had no thought of sacrificing the American Medical Association in the interests of the American Academy of Medicine and other societies which some loyal delegates had designated as "side shows;" his object had been chiefly to facilitate the work of the Association and to honor the president, who could then deliver his address to a full audience instead of to the handful that was usually present at the first general meeting.

The amendment was opposed by several members, who feared the change would work injury to the Association. They did not favor the special societies which were getting into the habit of meeting at the same place, and in the same week, as the national society. If these organizations wanted to meet with the American Medical Association let them annihilate themselves, break up their independent organization, and become sections of the main society, which had been compared to an old hen gathering her brood under her wings. This would be a means to promote the unification of the American medical profession, whereas the other plan which seemed to be gaining favor would tend to disrupt it.

A motion was then made and carried to table the amendment.

To Abolish the Committee on State Medicine.—Dr. X. C. Scott, of Ohio, introduced an amendment to the by-laws providing that the Committee on State Medicine be abolished, inasmuch as the Section on State Medicine occupies the same ground. This was amended to read that the nomination of the Committee on State Medicine be taken away from the Nominating Committee and be put into the hands of the Section on State Medicine, and was then carried.

To Establish State and District Branches of the Association.—Dr. J. C. Culbertson, of Ohio, introduced an amendment to the effect that the State and Geographical District Societies in affiliation at this time with the Association, having a membership of one hundred or more, shall be recognized as branches of the American Medical Association, and that all members of said Societies enjoy all the rights and privileges now accorded to delegates.

It was moved and carried that this question be referred to a committee of five to confer with the societies concerned as to the desirability and practicability of the measure proposed.

To Give Permanent Members the Right of Delegates.—Dr. William H. Daly, of Pennsylvania, offered an amendment conferring upon permanent members all the rights and privileges of delegates. This amendment shared the fate of the one proposed by Dr. Gihon, and was promptly laid on the table.

Railway Surgeons.—A communication was then read from the Medical Society of West Virginia, asking for counsel in regard to the treatment by the body of the profession of surgeons in the employ of railways, and for a decision of the question as to how far their conduct was in conflict with the Code of Ethics. It was claimed that railway surgeons give their services to rich corporations, taking passes in lieu of fees or other emolument, a proceeding derogatory to the dignity of the profession, and also that they always assumed entire and sole charge of every case of railway injury, to the prejudice of the family physician or other attendant who may have been first called. The communication also directed attention to the fact of a contract being made between the

railway company and the surgeon, asking why it was not equally permissible to make a contract for medical attendance with private families or individuals.

It was moved to refer this communication to a committee composed of one member from each State, which should consider the points raised therein and report at the meeting of the Association in 1892. An amendment to this motion was made to the effect that the committee should be composed of two members from each State, one of whom should be a railway surgeon. The amendment was voted down, and the original motion then passed.

Dr. Gihon moved that hereafter the president's address should be delivered at the second general session instead of the first, in order that more members might be present to hear it. The motion was laid on the table.

The session was then adjourned.

Third Day, Thursday, May 7th.

The session was opened with a prayer by the Rev. Dr. Bartlett. The Report of the Board of Trustees was then read by the Secretary.

The Journal of the Association.—The trustees reported that the weekly circulation of the *Journal* was a little over 5,400 copies. No editor had yet been appointed. The place of publication would remain in Chicago, and the trustees advised that a building for the permanent home of the *Journal* be erected as soon as there was enough money in the treasury.

The Report of the Nominating Committee was then read. *President*, H. O. Marcy, of Boston; *First Vice-Presiaent*, Willis P. King, of Missouri; *Second Vice Presiaent*, Henry Palmer, of Wisconsin; *Third Vice-President*, W. E. Davis, of Alabama; *Fourth Vice-President*, W. E. Taylor, of California; *Secretary*, William B. Atkinson, of Philadelphia; *Treasurer*, Richard J. Dunglison, of Philadelphia; *Librarian*, George W. Webster, of Chicago; *Trustees*, W. W. Dawson, of Cincinnati, W. W. Potter, of Buffalo, and J. H. Rauch, of Illinois.

Next Place of Meeting.—Hot Springs, Ark., was recommended as the place of meeting on the first Tuesday in May, 1892.

Dr. Cain, of Tennessee, was chosen to deliver the Address on General Medicine. Dr. Hamilton, of the U. S. Marine Hospital Service, on Surgery, and Dr. Lindsley, of Connecticut, on State Medicine.

It was moved to amend the report to change the place of meeting to Detroit. This was opposed by some who stated that the hotels in Detroit were insufficient to accommodate as many members as were present this year in Washington, and also that there was no invitation from the Detroit or Michigan societies. Another amendment was offered, substituting San Francisco in place of Detroit. This was laid on the table. The motion to meet in Detroit was then carried after a rather excited discussion, and the putting and tabling of a number of motions, cries of "We don't want the New York fight over again," cat-calls, shouts of "Question," etc. The report of the committee was adopted on motion of Dr. Davis. The question of Dr. Potter's ethical standing was referred to the Judicial Council. It was then decided that the next meeting be held on the first Tuesday in June instead of May.

The Address on Surgery.—The address on surgery was then delivered by Dr. Joseph M. Matthews, of Louisville, Ky. The speaker said that he had been embarrassed in selecting a theme for his address, but had finally taken the subject of stricture of the rectum. He doubted whether spasm of the rectum was ever seen, and if it were it would be symptomatic only. Dysentery as a cause of stricture he rejected, looking upon it rather as a consequence of stricture. Tuberculosis is an occasion of ulceration but not of stricture. The grand common cause of stricture is inflammation, but this is a very general term, including traumatism, cancer, and syphilis. The only venereal cause is secondary syphilis, the prime, the sole etiological factor is inflammation.

The speaker objected to colotomy, believing that it was often done uselessly, when there was no possible chance of relieving the patient. He looked upon this operation as a dernier ressort, and deprecated its performance early in the progress of the disease. We cannot always diagnose cancer in its early stages, and the making of an artificial anus for benign stricture is never justifiable. The operation, furthermore, does not prolong life, nor does it, as a rule, relieve the pain in the rectum. Pain is not always present, and when it is it can be overcome by opium. When a patient has only a few years to live there can be no serious danger of his becoming addicted to opium. Obstruction can usually be overcome by dilatation, so that colotomy is not indicated by this condition. From twenty to forty-five per cent. of all operations of colotomy result fatally within twenty-one days, and those patients who survive are benefited in no measure proportionate to the risk of the operation and the distress caused by an artificial anus. The diagnosis of stricture when within four inches of the anus is easy, but it is often difficult to determine its character.

Dr. Matthews believed that at least sixty per cent. of all cases were due to syphilis, and most of the rest were malignant. The induration of syphilis is more even than that of cancer. The speaker condemned utterly the use of bougies, either of metal or hard rubber, in the diagnosis of stricture, on account of the great danger of the procedure.

Treatment of Stricture.—He objected to gradual dilatation and looked upon forcible divulsion as the most useful in cases of fibrous stricture. He was very partial to incisions, more especially internal division, and did not believe there was much risk in the latter. There is no necessity of passing bougies subsequent to the operation, when linear incisions will accomplish so much at one sitting.

Dr. Matthews did not see the use of resorting to such a tedious method as electrolysis, even were that operation effectual. He did not, believe in extirpation for benign cancer, but it was the ideal operation for cancer when seated low enough in the rectum. Excision removes the disease and gives the patient a chance of cure, whereas the horrible and disgusting operation of colotomy is at the best only a palliative. It does not relieve pain, does not cure the patient, does not prolong life, and is no more effectual than other means in obviating the effects of obstruction. Colotomy might be justifiable in the case of cancer of the sigmoid flexure, and of fibrous stricture high up, where it cannot be divulsed, incised, or extirpated. In the case of non-malignant stricture high up the operation will prolong life and relieve suffering, but for low stricture, whether benign or malignant, it is never indicated. Where colotomy is to be performed, the lumbar operation is preferable.

The address was well received, and was referred without discussion to the Committee on Publication.

On motion a committee was appointed to consider the advantages of creating a Section on Benevolence, looking to the relief of the widows and orphans of deceased members.

After the transaction of some further general business the session was adjourned.

Association Notes.

The Tin Badge has been suppressed this year, and the delegates are no longer labelled like a band of marksmen or the members of a summer fishing club.

The American Editors had their annual meeting at the Arlington Hotel on Monday evening. The principal business was the election of officers, which resulted as follows: *President*—Dr. Frank Woodbury; *Vice-Presi-*

dent—Dr. C. H. Hughes, of St. Louis; *Secretary*—Dr. C. C. Culbertson, of Cincinnati.

After adopting as a subject for the next meeting's consideration. "The Best Interest of the Medical Journal from a Literary Standpoint," the association adjourned to Chamberlain's to enjoy the annual dinner.

A Season of Meetings.—The meeting of the Association has been made the occasion of drawing the members of many other societies to Washington Among the associations which have been deliberating in the capital city are the Association of Insane Asylum Superintendents, the American Association of American Editors, the American Academy of Medicine, the Rocky Mountain Medical Society, the National Conference of State Boards of Health, and possibly others. There are to be at least two new organizations effected, namely, the American Medical Temperance Society and the Association of State Medical Examiners.

Receptions.—A reception to the delegates and their families was given by the physicians of Washington on Tuesday evening, at the Arlington Hotel. On Wednesday afternoon the members were received by Secretary Blaine at the State Department, Secretary Proctor at the War Department, and Secretary Foster at the Treasury. Wednesday evening a reception was given by Dr. Hammond. The delegates were also invited to Mr. Waggaman's private art gallery and to the Corcoran Art Gallery. Thursday night the Surgeon-General received at the Army Medical Museum, from 8 to 10.30, and the Director of the National Museum received at that institution on the same evening. An excursion to Mount Vernon took place on Friday afternoon.

A Good Presiding Officer.—It is generally conceded that Dr. Briggs has been a success as presiding officer of this meeting of the Association. He gave his decisions promptly and fairly, never losing his head, being firm in the assertion of the rights and dignity of the chair, and showing no favor to the oldest and most prominent of the members over the youngest and least known. In a word, he did as well as he knew how, and he did know how.

Dr. E. Carroll Morgan, of Washington, died on Tuesday night. He was a son of the late Dr. James E. Morgan, and was thirty-five years of age at the time of his death. He was born in Washington and was graduated in medicine from the University of Pennsylvania. He afterward went to Europe and studied laryngology in Paris and Vienna. He was a member of the American Medical Association, and was president of the Laryngological Society.

The National Conference of the State Boards of Health.—The seventh annual meeting of the National Conference of the State Boards of Health was held in the Ebbitt House, on the Saturday and Monday before the meeting of the Association. Dr. J. N. McCormack, of Bowling Green, Ky., presided. An address of welcome was made by District Commissioner Douglass, after which Dr. Cochran, of Alabama, read a paper entitled: "What are the Requisites for a Thorough System of Quarantine and Maritime Sanitation, in the Light of Present Scientific Attainment?" He thought that the port of Havana was the proper place for quarantining yellow fever ships, which nearly all came from Cuba. Next Dr. S. R. Olliphant, of New Orleans, discussed the questions: "Given a vessel, with cargo, from Central or South America or the West India Islands, can such vessel and cargo be disinfected without discharging the cargo?" and "Can such cargo be disinfected thoroughly and without damage after it has been discharged?" The speaker believed that the best method of disinfection of vessels was by sulphurous acid. Dr. Cochran did not think disinfection of a ship's hold and cargo could be effected in this way. Dr. Salomon, of New Orleans, read a paper on the means of preventing the carrying of infection from one State to another. Dr. Balch then discussed the question: "Should State boards of health have control of the sanitary arrangement of all school buildings to be erected within their boundary?" and, "What is the best plan to secure such control?" He argued against the direct control of school matters by the State board. The second session was occupied mainly with the discussion of what boards of health should teach and do to prevent consumption. The election of officers resulted as follows: *President*—Dr. J. W. McCormack, Kentucky; *Secretary*—Dr. C. O. Probst, Ohio; and *Treasurer*—Dr. Henry B. Baker, Michigan.

Could not Get In.—A number of delegates had selected the Riggs House as their abiding place during the four days of the meeting, and many had written to secure rooms in advance, but when they arrived on Monday they found the hotel closed to guests, and an auction of all the furniture being held.

The Cold Wave visited Washington as well as the rest of the country, and many of the delegates had cause to regret their want of foresight in leaving their overcoats and thick clothing at home.

SECTION ON PRACTICE OF MEDICINE AND PHYSIOLOGY.

VICTOR C. VAUGHAN, M.D., CHAIRMAN.

FIRST DAY, TUESDAY, MAY 5TH.

The Growing Importance of Chemical Studies in Medical Education and in Medical Research—DR. VICTOR C. VAUGHAN, chairman of the Section, in this paper directed attention to the most important problems now being investigated in the line of chemistry.

The Chemistry of the Animal Cell.—With the form and size of the various cells of the animal body in health and disease we were already fairly acquainted, but it should be remembered that these ultimate entities of life had also a physiological and a chemical history. "Upon what do they feed? What is the nature of their secretions and excretions? These and many other questions pertaining to their life-history are worthy of study. The diverse ways in which the various cells of the body and the several parts of the same cell are affected by staining reagents suggest important differences in chemical composition." Miescher and Kossel had shown that certain compounds existed as characteristic constituents of the nuclei. They belonged to the proteids, but differed from other members of this group in that the albumin molecule was not free, but combined with phosphoric acid. This combination was exceedingly loose, decomposition taking place at even the ordinary temperature if the compound were kept moist. It had been called nuclei. It had been supposed that phosphoric acid in the body existed as inorganic salts. This was true of most of that contained in the bones, muscles, and blood, but not of that of the glandular organs. The smaller the proportion of nucleated cells in any tissue, the smaller was the amount of nuclei. The amount of organically combined phosphoric acid was a measure of the nuclear substance in a given tissue, and this could be isolated and weighed, thus giving a more exact estimate than could be obtained by counting the nuclei under a microscope. This procedure could be made serviceable not only in physiological, but also in pathological, work.

Albumin and phosphoric acid were not the only constituents of the nuclei. Nuclei, on being artificially decomposed, furnished certain basic substances, as adenine, guanine, hypoxanthine, and xanthine, which were characterized by the large amount of nitrogen which they contained.

Nuclein did not form a reserve food-supply, as did glycogen, fat, and albumin. Cyanogen bodies had a well-known tendency to transform themselves into substances having a complicated constitution.

With a knowledge of the conditions under which cells multiplied, of the nature of their pabulum, of the manner in which they converted foods into living tissue,

what a great advantage the scientific physician would have over those who to-day had to rely in the treatment of disease upon empiricism. The chemist hoped to acquaint himself with the nature of cell-substance, and be enabled from this knowledge to supply the living cells of the body with proper food, to point out to the practitioner the effects of certain therapeutic agents upon the cells of the liver, and, what would be of equal importance, the action of the cells of the liver upon the therapeutic agents. We knew at present but little of the form in which our medicinal agents reached the diseased organ, and yet, without any knowledge on this essential point we endeavored to effect the nutrition of the various parts of the body. A substance might undergo one or more marked changes in chemical composition during its passage through the body. Examples were given in camphor, etc.

Reference was made also to the investigations of Schröder, going to show that urea was, in part at least, formed in the liver from ammonium carbonate; and to those of Minkowski on the formation of uric acid; to the question of whether kreatin was one of the antecedents of urea; to the influence of impure air upon the chemistry of the living cells. He then passed to the chemistry of the absorption of foods. There seemed to be a popular idea that peptones filtered through the walls of the intestines without let or hindrance. Scientific experiments had shown that this view was quite erroneous. There were many reasons for believing that in health a small part of our proteid food was never converted into peptones, but was fitted for its service to the animal economy during its absorption through the walls of the intestines. The active agents which rendered this portion fit to enter the circulating blood were not the unorganized digestive ferments, but were the living cells of the absorbing mechanism.

The author then gave recent information on the reconversion of fatty acids, set free by the action of the pancreatic juice, into neutral fats while passing into the thoracic duct. From the facts given, it seemed evident that the cells of the absorbing mechanism of the intestines synthesized the fatty acids, and in every case the synthesis consisted in a combination of the acid with glycerine. He then took up the nature of the change whereby peptones were converted into serum-albumin; then the chemistry of the liver, of the nerve-cells, of albumin, and concluded by pointing out the value of chemical research in pathological studies.

Case of Fatty Urine Accompanying an Abscess in the Right Iliac Fossa.—Dr. J. P. Connolly, of Williamsport, Pa., reported the case, which occurred in a colored woman who had been in health until the birth of her child. After that event she had had chills at irregular periods for a long period, but did not call her physician until January, 1890. He found her with symptoms attending elevation of the temperature, which had begun with chill. She also complained of pain in the right iliac region, and palpation revealed a deep-seated tumor with obscure fluctuation. The patient told him that her urine contained fat, and on investigation was found to be covered with an oily substance resembling castor-oil in consistency, but becoming thick like tallow on cooling. Three and a half ounces avoirdupois were passed daily for eight days, and then immediately disappeared after the sudden discharge of a large amount of pus with the urine. Pus continued in the urine about three months. The patient slowly improved, and in five months was apparently well.

The urine had been examined for sugar and albumin, and found to contain none. The patient had not been taking cod-liver oil or other oils. The blood did not contain filaria. A few other cases had been reported. In Cushing's, the fat appeared after the escape of pus, and the patient died.

Digitalis in the First and Second Stages of Pneumonia.—Dr. J. W. Carhart, of Lampasas, Tex., in this paper deprecated the use of digitalis in the first and second stages of pneumonia, having more especially reference to the broncho-pneumonia of children. To this method of treatment he attributed much of the large death-rate given by Ziemssen and other authors.

A clinical picture of the condition present in pneumonia was given, and the physiological action of digitalis briefly stated. It was not necessary to consider whether pneumonia was a systemic disease with a local expression, or a local affection with systemic consequences; we found as a fact the lungs engorged, swollen, and hot, blood stasis, infiltration, obstruction in fine capillaries, lack of aeration of the blood, carbonic acid poisoning. Digitalis exaggerated this state of things by its effect upon the nervous system, and in causing irregular action of the heart. He quoted Dr. Loomis' recommendation of this drug in pneumonia in Pepper's "System of Medicine," who contradicted the claims here made elsewhere.

Tuberculin—Its Value as a Scientific Discovery.—Dr. S. K. Jackson, of Norfolk, read the paper. He thought the evidence went to show that the curative action of tuberculin was due to the fact that it was a product of the germ which caused tuberculosis. He had shown in a paper read in 1879 that a living organism could not exist on its own excreta, and had then and several times since made this fact the basis of some therapeutic suggestions. This might offer an explanation of the action of sulphuretted hydrogen, of alcohol, and other agents which had been found useful in tuberculosis.

Koch's Treatment of Tuberculosis.—Dr. H. D. Geddings, of the Marine Hospital Service, in this paper gave an account of this method of treatment in twelve cases. Apparently cured, two; much improved, one; improved, one; unimproved, two; worse under treatment, four; death, twos. Only one was a case of lupus, which was improved. In three there was laryngeal complication of the lung disease. His conclusions were: 1, That tuberculin is a powerful agent, about which little is yet known, not to be used by the general practitioner; 2, that in a limited number of cases which come under observation in the incipient stage of the disease it is beneficial, provided the disease is not extensive, and that softening and breaking down of tissues has not taken place, or the patient's vital forces have not been exhausted; 3, that its results in tubercle of the larynx are very variable, it is liable to produce most distressing and alarming symptoms; 4, that in cases where softening has taken place, or the patient is exhausted, a fatal issue is hastened; 5, that in hemorrhagic cases the use of tuberculin is prejudicial, producing rapid and violent harm.

Two Additional Cases of Forced Respiration.—Dr. Fell reported the cases and demonstrated the working of the apparatus as he has now perfected it. Altogether seventeen lives had been saved by this method which could not be saved by any of those previously in use. One of his two cases occurred in a medical student, a female, who was suffering extreme morphine narcosis. The bellows was used first with the face mask for three hours, but as the symptoms were becoming more alarming, the pulse could not be felt nor the heart heard, tracheotomy was performed to avoid forcing air into the stomach instead of into the lungs. At this stage the case was considered almost hopeless, but with the tube in the larynx signs of returning life began slowly to make themselves evident, and after fourteen hours the patient could be left to breathe for herself. In the other case the patient had taken repeated doses of phenacetin, morphine, and cocaine in small quantities, until a poisonous amount had been consumed. Here the face mask had also to be given up after some hours for tracheotomy. The patient was considered nearly out of danger after keeping up forced respiration all night, but during the speaker's absence died of heart failure next morning, brought on by vomiting. In this instance he tried oxygen inhalation for the first time. He believed this patient would also

have recovered had morphine alone been taken. He was of the impression that forced inhalation would prove of value in surgical shock.

The Treatment of Chronic Phthisis.—Dr. Asa F. Pattee, of Boston, read a long paper with this title. He thought we were in danger of overlooking well-recognized methods of treatment and prevention in giving so much attention to the part taken by disease germs. He had claimed for many years that tuberculosis could be cured even after extensive destruction of lung-tissue had taken place, provided the patient's constitutional powers had not been exhausted. In 1857 he wrote a thesis on pure air, pure water, cleanliness, and exercise, their importance in the cure of disease. Since that time he had found these agents his best allies, and the present paper consisted largely in showing their practical application in the treatment of consumption. The best germicide was health; the bacillus tuberculosis could not thrive in the healthy lung. To overcome the disease when it had once got a hold it was necessary for both nutrition and exercise to be cumulative. Besides dwelling on the diet, air, exercise, cleanliness, sleep, the author also considered the comparative value of antipyretics and other medicinal agents.

SURGICAL SECTION.

Dr. T. A. McGraw, Chairman.

Use of the Elastic Ligature in the Surgery of the Intestine was the subject of the address of the Chairman. Dr. McGraw referred to the work of Senn as having given the impulse to intestinal surgery and having placed it on a sound pathological basis. He said that the operation for intestinal anastomosis was made for—1, chronic stenosis of the gut; 2, acute obstruction; and 3, some cases of gangrenous hernia, false anus, and fecal fistula. He regarded the dangers which beset the operation as shock from a too prolonged operation, hemorrhage, and the escape of the contents of the gut into the abdominal cavity. To escape from these dangers, and especially to reduce the time of the operation, which by the usual methods was from twenty to thirty minutes, by at least ten or fifteen minutes, he had devised a new operation. It had occurred to him that if a junction could be formed between the opposing surfaces before an opening was made between the two coils of intestine, it would obviate escape of contents and hemorrhage. For this the elastic ligature was adopted. A rubber cord, two millimetres in diameter, was trimmed down at the end so as to enter the eye of a worsted needle, which eye being smaller than the calibre, the rubber cord must needs be stretched to be drawn through. Thus arranged, the cord more than filled the hole made by the needle. The opposing coils of gut having been brought in apposition, the needle is passed through, as near as possible at right angles to surface, and the stitch taken in the line of the long axis of the gut, at a point farthest distant from the mesentery. An inch or more in length is included in the ligature. A square knot is then tied, the ligature being drawn as tight as possible without breaking the cord. The knot is finally fastened by a silk thread passed beneath the knot and tied around it. The ends are cut close.

From the symptoms which arise when a small portion of the gut is pinched in a strangulated hernia it might be expected that like symptoms would arise when the gut is pinched by the constantly contracting ligature. Such, however, has in no instance been the case.

In the experiments made upon dogs, after twenty-four hours no change has been found, except adhesions between the adjacent surfaces, and partial obliteration of the intestinal folds. After forty-eight hours the folds were found to have entirely disappeared, and slight cutting was present at the points of passage of ligature. At the end of seventy-two hours these cuttings were of sufficient size to admit of the passage of water, and the ligature was still hanging in the centre. At four days the ligature had fully cut through, and the wound had a smooth, healed edge. In the first series twenty-four dogs were operated upon. Then the first trial was made upon man. The patient suffered from cancer of the pylorus, and anastomosis was sought between the stomach and the highest coil of small intestine presenting. The operation, after exposure of the stomach, though done with great deliberation, lasted but eleven minutes. (The author now does the operation upon the dog in three minutes.) The patient suffered no irritation of the stomach at any time, and food passed at the end of the fourth day. Diarrhœa, however, soon came on, and the patient died of inanition at the end of two weeks. At the autopsy it was found that the anastomosis with the small intestine had been effected at a point somewhat over three feet from the pylorus—a point too low down for purposes of nutrition.

The anastomosis had been completed with the minimum of irritation. The writer believes that the operation is not applicable to cases demanding relief sooner than four days, but that it has very decided advantages over other forms of the operation in cases of partial stenosis from any of the many causes, and where the patient has a fair degree of strength.

Experiments on dogs to effect anastomosis between the gall-bladder and intestine did not prove satisfactory. In the dog the parts are difficult of access, and the movements of the diaphragm are prejudicial. Bile escaped into the abdominal cavity, while the contents of the intestine never did. Six of the nine dogs experimented upon died; of those living the opening was found to have closed after seventeen days. The openings between the stomach and intestine have also been found to contract in five months to one-half their original size.

On Appendicitis and Pericæcal Inflammation.—Dr. Thomas G. Morton, of Philadelphia, read a paper on the above subject. He pointed out the importance of early diagnosis, prompt operation, and thorough exploration of the abscess-cavity, and he considered it of vital importance to remove the appendix vermiformis if it be found diseased. He reviewed the pathology, and held that the opening into the appendix is not patulous; that the calibre is not as large as a goose-quill, but that ordinarily there is no cavity at all, the walls being collapsed and usually only admitting a probe; that the opening is usually closed with mucus; that in length it is from three to nine inches, and that it is not joined to the cæcum at its lowest point

He divided the cases into three groups: 1. Where irritation or simple inflammation only is present; in these the diagnosis is not easy. 2. Where inflammation of a severer type, with ulceration or perforation, gave tumefaction and other evidences of inflammation. 3. Where ulceration and perforation had occurred without sufficient lymph exudation for protection; in these the onset was sudden, but it was usually not the first attack.

Symptoms.—First group: Pain, increased by pressure, and possibly nausea, vomiting, constipation, and an accelerated pulse. Second group: Tumor from lymph exudation, but with no symptoms of pus formation because of the thick walls. Third group: No encasing wall, all symptoms sudden, and those of intense local and general peritonitis.

Several cases were reported in detail. The author advises removal of the appendix, if possible, in the interval between recurrent attacks.

In the discussion—participated in by Drs. Fenger, of Chicago; Marcy, of Boston; Manley, of New York; Gaston, of Atlanta, Ga.; Murphy, of Minnesota; Davis, of Birmingham, Ala.; Stanton, of Fremont, O.; Tiffany, of Baltimore; Pierman, of Champagne, Ill.; McGray, of Atlanta, Ga.; and Thomas, of Pittsburg, Pa.—all views were held, from the necessity of operations in every case to operation in but one case in twenty.

Dr. McGray stated that in his position of Demonstrator of Anatomy he had found evidences of disease of the appendix in thirty five per cent. of all autopsies from death from whatever cause. This led Dr. Thomas to say that, without operation, death was the exception, recovery the rule.

The Scientific Rationale of Modern Wound Treatment.—Dr. Henry O. Marcy, of Boston, reviewed the experiments of Jeffries Wyman, published in 1867, and the work of Lister. He quoted from the recent paper of White, of Philadelphia, and Tate's reply. He said that to sterilize the surroundings and the materials used, and to restore the parts to their normal state, was the ideal treatment for wounds.

A New Operation for Harelip.—Dr. Christian Fenger, of Chicago, said that in all cases of harelip, single or double, complicated or non-complicated, there was a deficiency in the prolabial tissue—not too much. Most operations remove more or less of this prolabial tissue. The new operation, which he illustrated by diagrams, did not do this. The incision was linear, and he considered it of prime importance that the sutures did not appear on the side of the mucous membrane. Deep tension sutures were first put in, afterward the skin sutures. Sutures were held by artery forceps until all were in, and then all were tied. The part was then dusted with fine powder of boric acid and covered with collodion. Outside, adhesive plaster immobilized the cheeks.

Some Points in the Surgical Treatment of the Radical Cure of Hernia.—Dr. Augustus P. Clarke, of Cambridge, Mass., laid great stress on proper material for sutures. The sutures should be aseptic and the wound should be aseptic. The surgeon should attend to the final preparation of the sutures himself, those sold in the shops were not to be trusted. The best material for buried sutures is animal membrane, catgut or tendon. Silk, as a foreign substance, should never be used; and the same may be said of horse-hair. The several different tissues should be coapted in proper order, and no drainage should be used. The obliquity of the inguinal canal and the relation of the internal and external abdominal rings should be maintained.

SECTION ON OBSTETRICS.

Dr. C. A. L. Reed, of Cincinnati, Chairman.

First Day, Tuesday, May 5th.

The session was opened by The President, who expressed his profound appreciation for the honor conferred on him by his election to this office, which had been filled by so many honorable men, first of whom was Dr. Alfred C. Post, of New York. It was his duty to trace the progress in obstetrics and gynecology, and the first words of his address included one great advance, viz., *Ladies* and Gentlemen. He thought it a matter of very great importance that ladies had been admitted to this Section and to this work. He traced the evolution of the Section from the time when there was only a Committee on Obstetrics, which reported, may be, every two or three years; then obstetrics was added to the Section on Medicine; then obstetrics, gynecology, and pediatrics were grouped together; then pediatrics went by itself, and now, on looking at this immense programme, he would say that there was abundant material for two sections, one on obstetrics and one on gynecology. He then took up specialism in medicine and then special societies. He hoped the transactions of the Section would now appear more exclusively in the *Journal* of the Association, and did not favor their publication promiscuously. He again returned his extreme gratitude for the honor conferred on him by his election as chairman of the Section.

The Prevention of Puerperal Convulsions by the Induction of Premature Delivery was the subject handled ably by Dr. H. D. Fry, of Washington. The Doctor considered the chances of the child better from induced abortion than from living in the poisoned blood of the mother. Of 829 premature children, with an average weight of four pounds, 662 lived. Tarnier, by his system of gavage, saved thirty per cent. of children at the sixth month. The safest, simplest, and best method of inducing abortion is by inserting a bougie between the uterus and the membranes. The catheter is not to be used. It is a dirty, hollow instrument which is not easily kept clean. The bougie should be immersed in a solution of bichloride for twenty-four hours and then washed in boiled water. He does nor advise abortion for simply the presence of albumin, but only when convulsions are threatened.

Dr. Byron Stanton, of Cincinnati, thought that the cases requiring induced labor for the prevention of convulsions were extremely few. The shock of induced labor is too great. If labor has commenced it is our duty to hasten it so as to abbreviate shock. Methods of inducing abortion are so well known as not to justify discussion here. The induction of labor should be deferred as long as possible. The presence of albumin or the presence of convulsions do not necessitate it, unless they cannot be controlled in any other way.

Dr. W. W. Potter, of Buffalo, advocated the early induction of labor in threatened abortion.

Dr. A. F. A. King, of Washington, advocated the postural treatment, viz., the knee-chest.

Spasmodic Stricture of the Urethra Following Labor was the subject of a paper by Dr. Llewellyn Eliot, of Washington. He reported two cases which, from their rarity, he thought of interest to the Association. Both occurred on the seventh day after labor.

Laparotomy, with the report of cases, was the subject of a paper by Dr. J. H. Branham, of Baltimore. His cases amounted to eleven. They were his first and all occurred during the past eighteen months. They were of great interest to him and he made them appear so to his hearers.

Papillomatous Cystoma of the Ovary, with report of a case, was the subject treated by Dr. A. B. Walker, of Canton, O.

A Report of Ten Selected Cases of Laparotomy, with remarks, was the title of a paper read by Dr. J. H. McIntyre, of St. Louis. These ten cases were selected from a large number, and were chosen for their interest, instruction, and variety. Two were the Battey-Tait operation, and in both there was no return of the menstrual flow, though the sexual function remained as before. The last and most interesting case of all was the removal of an œdematous fibroma of dimensions enormous, a very good photograph of the patient before operating being shown. Adhesions were found almost everywhere, the most difficult to manage being those attached to the liver and diaphragm. At the time of the detachment of the attachments to the diaphragm the patient ceased breathing, sank rapidly, and it was thought she must die on the table, but rallied under appropriate treatment. The case was manifestly one for drainage, but on account of the vast expanse of lax abdominal tissue he did not believe the serum would gravitate into Douglas's pouch sufficiently, and decided to defer drainage till necessary. Forty-eight hours after the operation the temperature reached 103.5° F., a few of the ventral sutures were removed and the abdomen flushed out with hot distilled water. Many blood-clots and much serum were removed, and the temperature fell to 101° F. within six hours. She died of septicæmia the fifth day after operation. He regrets that he did not resort again to flushing out the abdomen, as it seemed to improve her so much. Drainage in this case, though tried later, did but little good. Keith removed an œdematous myoma weighing 42 pounds. Tait, a uterine myoma weighing 68 pounds. This woman's weight was, before the operation, 199.5 pounds, after, 106 pounds, leaving a tumor removed weighing 93.5 pounds, which he believes to be the largest reported of the solid variety. The Doctor operates anti-

septically. Bleeding points are ligated with fine Japanese cable silk, the pedicle is always ligated and pocketed, the ventral wound is closed with silkworm gut, threaded upon two long veterinary needles, passed from within outward, always inclosing the peritoneum. He considers this the ideal suture, not only for the ventral wound, but also for the operations for lacerated cervix and peritoneum. For anæsthesia the Doctor uses exclusively the bichloride of methylene in a Junker's inhaler, and now, with an experience of its use in over three hundred operations of various kinds, he has not infrequently seen nausea, but vomiting only five or six times. When in doubt he always drains, and prefers Keith's glass tube over all others. He uses but little opium or morphia, on account of its locking up the secretions, but in case of pain uses antikamnia with happiest effects. He had much praise for the Staffordshire knot.

Joint Reflexes Consecutive to Pelvic Inflammation was the subject of a paper by Dr. W. W. Potter, of Buffalo. He discussed more particularly an exaggerated form of reflexes which were found about the larger joints, especially the joints of the lower extremities. On account of the close connection of the pelvic organs and the hip-joint through the cerebro-spinal system these reflexes are often found there. We frequently find severe intolerable aching in the lumbar region, low down backache, associated with pelvic disease. He related an interesting case of pain in the hip-joint occasioned by a fall, and which was treated for hip-joint disease for a long time, and was finally found to be due to pelvic peritonitis. The points to which the Doctor called special attention were the intimate anatomical relations between the pelvis and the large joints through the cerebro-spinal system, the importance of early diagnosis, and the important medico-legal questions which may grow up, and which did appear in the case reported.

The Clinical Teaching of Obstetrics in America was the subject of a paper by Dr. E. S. McKee, of Cincinnati, O. Entering into this subject in a spirit of criticism, the essayist found much to commend. The improvement had been marked since he last had occasion to investigate this special field. True, there is yet much room for advance, but we have cause for encouragement. Of all the civilized countries of the globe, our own, usually the leader, in this instance proved the laggard. There were some excuses for this, namely, that the time for study was too short, funds too meagre, the danger in a lying-in hospital too great, and the population too small and scattered to admit of obtaining material for the clinical teaching of obstetrics. These conditions exist at present in a much more limited degree. Every city in which the existence of a medical college should be condoned offers material which needs only to be grasped.

In many medical schools of our country, the science of obstetrics is admirably taught by pictures, models, and illustrations of various sorts, but the vast majority of medical students in America graduate without ever having witnessed a case of labor. Until within the last three or four years the majority probably equalled ninety-nine per cent. Many of our best teaching institutions have maternities connected with them. This is well, for here material is collected in small compass, and the student can see more in less time, being also under the supervision of competent instructors. Here he can be carefully inducted into the arts of inspection, mensuration, auscultation, percussion, and indagation. Then, too, the out-door obstetrical clinic has its advantages. There is a close similarity between this and the first experiences of the student in his practice. He will first be called to the hovels of poverty, where he must depend upon himself, and where he is developed. It would be well for this training to follow that in the maternity should both be at command. The ideal teaching of obstetrics is, first, a course of didactic lectures with quizzing; second, the observation and conduct of a number of cases in a maternity under the careful supervision of a teacher, quizzing following each case, the student making a written report; third, the out-door obstetrical work, where the student is left to his own resources, but instructed to call his teacher in case of complications, which instruction may be omitted with especially diligent students after considerable experience.

Would it not be wise for the Obstetrical Section of the American Medical Association, the light and guide of the American medical profession, urging it on to higher and grander views of medicine, to declare with one strong voice that the clinical teaching of obstetrics should be a part of the regular course in every recognized medical college in America. With the seal of such approval, those laboring in this field will be given great strength, courage, and hope.

(To be continued.)

Strychnine in the Treatment of Chronic Alcoholism.—Dr. V. N. Ergolski reports, in *Vratch* for March 7, 1891, ten cases of chronic alcoholism treated with more or less marked success by means of strychnine. The following are two of the cases reported in this article: The first was that of a gardener, thirty-four years of age, who often drank to excess, but did not regard himself as intemperate, claiming that he drank only when he had plenty of money and was in good company. At the solicitation of his mother, however, he submitted himself to treatment. On the first day he received a hypodermic injection of $\frac{1}{60}$ grain of nitrate of strychnine, $\frac{1}{40}$ grain on the next day, and $\frac{1}{20}$ on the third and following days. During the entire course of treatment, and for two weeks afterward, the patient did not drink anything, giving as his excuse that he had no money; but his mother said that he had never gone for so long a time without liquor in twelve years. Finally he thought he would try once more how vodka tasted. But after taking two glasses he became very drunk, had a violent headache, vomited profusely, and had to be taken home and put to bed. He tried the experiment again in a week or two, with the same result. He insisted, however, on resuming his old habits, saying that he did not want to lose his taste for drink, and began taking vodka, a few drops at a time, gradually increasing the dose until he could take his usual allowance without trouble. The second case was that of a railroad worker, who had been for ten years strongly addicted to brandy, so that every day he would take from a half to one bottle or more, feeling, unless he took this allowance, a great restlessness and a sense of drawing in the region of the stomach. He was anxious to overcome his habit, but had not the will-power to do so. The first day after coming under treatment he received a hypodermic injection of $\frac{1}{40}$ grain of nitrate of strychnine. Upon presenting himself the next day, he reported that he had had none of the restlessness or dragging at the stomach, although he had not touched a drop of vodka. Dr. Ergolski administered $\frac{1}{20}$ grain subcutaneously this and the seven following days, after which he dismissed the patient, giving him 1 grain of the remedy divided into sixty pills, of which he was instructed to take one a day every alternate week. On the fifth day of treatment the man attended the name-day festival of a relative, where he was pressed to join the others in drinking the health of the host. He felt, however, a loathing for liquor, and would not touch it although the company made sport of him for refusing. The patient reported to Dr. Ergolski at the end of fifteen months, at which time he was perfectly cured. The eight other cases were similar to these, in all of which there was some good effects noted—in some a permanent cure, though in a few there was a relapse from one cause or another. The author regards the remedy in the nature of a specific for chronic alcoholism, and declares, as his belief, that it is possible to cure even the most obstinate cases by means of it, although in cases of relapse it may be necessary to repeat the course of treatment once or twice.

Correspondence.

OUR LONDON LETTER.

(From our London Correspondent.)

FURTHER EXPERIENCES OF KOCH'S METHOD.

London, April 25, 1891.

Koch's treatment is again a subject of interest, and two important society meetings have just been held at which it formed the sole subject of discussion. The first of these "field days" took place last week, when a meeting of the Metropolitan Counties' Branch (South London District) of the British Medical Association took place at St. Thomas's Hospital. Dr. Bristowe opened the discussion and remarked that he had been from the first highly sceptical as to the value of the method, and an amused spectator of what was going on. He pointed out that infective diseases might be roughly divided into two categories, viz., (1) those which had a limited duration, and were in a greater or less degree self-protective, such as small-pox and scarlet fever; (2) those, like leprosy and tuberculosis, which were persistent and ingravescent, and in no sense self-protective. It was in relation to the former diseases that discoveries had hitherto been made by means of which the inoculation of an attenuated variety of the virus prevented recurrence. We knew nothing of the real nature of the protective influence thus imparted, but in such diseases it was not the mere presence of the specific organisms which caused mischief, but the poisonous matter which these organisms discharged. If such diseases as leprosy and tuberculosis were to be cured by injections, it could scarcely be by the injection of an attenuated virus, as they were persistent and ingravescent diseases not tending to cure. If curatively dealt with, it must be on other principles than those governing the other class of diseases. Dr. Bristowe said that when he first heard of Koch's remedy he believed, as many others did, that Koch had discovered something inimical to the bacilli; but when Koch told us that his remedy had no effect on the bacilli, but only tended to imprison them in an excess of inflammatory products, his scepticism became profound. When Koch's last instalment of confidence was given to the profession this mental attitude became more pronounced, for it was much less likely that aggravation of inflammation would checkmate the bacilli than that it would tend to encourage their growth and diffusion. Dr. Hawkins showed some cases of lupus which had been treated by Koch's method in St. Thomas's Hospital, and furnished a report as to a number of other cases treated there. Dr. Hector Mackenzie said that, now "tuberculin" was advertised as on sale at the chemists' it was high time the medical profession should learn what was thought of the remedy by those who had had opportunities of seeing its effects in hospitals. He contrasted Koch's statements at the International Medical Congress last August with those in his now famous communications of November, 1890, and January, 1891. Koch had said that hitherto physicians had failed to cure tuberculosis because they had gone about it in the wrong way, and tried the effects of various remedies on man, instead of on the parasites themselves in their pure cultures, and then on the lower animals. Koch talked of speedy cures of lupus and of early cases of glandular, bone, and joint tuberculosis, and regarded it as certain that phthisis in the beginning was curable by his remedy. Koch had led us to suppose that he had himself fully tested this wonderful remedy of his, that he had found that it prevented the growth of the bacilli in the test-tube, and we were surely not wrong in supposing that he had made numberless experiments with regard to its effects on tuberculosis in the lower animals. Two months elapsed, but the accounts of the fluid in Koch's further communication were bald in the extreme. Koch gave no indication of the length of time he had experimented with it, and the only experiments he told us of were a few on guinea-pigs. If he had made the experiments on animals which he had led us to assume he had done, surely he would have told us of them. Dr. Hector Mackenzie said the conclusion was forced upon us that Koch had suddenly left science for empiricism, and, after a few observations on tuberculous guinea-pigs, had proceeded at once to this gigantic experiment on tuberculous man.

Dr. Phineas Abraham said he could not go quite so far as Dr. Hector Mackenzie had done in denouncing Koch and his remedy. Dr. Abraham said he had himself had four months' experience of the method, having injected between forty and fifty patients. Most of the lupus patients had more or less improved—three in so marked a manner as to be regarded almost as practical cures. In a few there was no obvious improvement—one being a case of erythematous lupus of sebaceous type in which there was considerable constitutional disturbance, but only little local reaction. In none of the lupus cases had he pushed the remedy beyond twenty milligrammes, generally beginning with two milligrammes. A few cases showed skin rashes, the most severe being a scarlatiniform eruption in a boy followed by copious desquamation over the greater part of the body; this case turned out one of the best results. Dr. Abraham said he thought those cases acted best in which the lupus was hyperæmic and ulcerative; he was now combining with the method the application of salicylic and resorcin ointments. He thought there was much in what Mr. Hutchinson said as to the failure of the treatment to act on the myxomatous or "apple jelly" tissue of lupus; but he had seen in a few cases desquamation and diminution to some extent of such tissue. He had not seen the appalling effects from the injections recorded by the French surgeons, and he agreed with Dr. Leslie Phillips that the St. Louis report was just a little premature.

Mr. H. Betham Robinson showed a case of lupus treated by Koch's method. The patient had greatly improved, but it was feared the disease was returning. The success obtained in cases of tuberculous bones and joints had been limited, occurring to any certainty only in one case where there was an old discharging sinus; possibly the injections might be of benefit in such cases.

Dr. Wheaton said he had had the opportunity of watching a large number of cases treated by Koch's fluid, and had made post-mortem examinations in two cases subsequently fatal. In no case had he seen a permanent improvement, but in nearly all cases a temporary improvement occurred. The remedy certainly had no effect on the bacilli, and the changes described in them, such as beading and disintegration, occurred in cases not so treated. In several cases of phthisis he had found the bacilli more numerous after the treatment, and in tubercular glands he had been surprised to find a great increase in the number of bacilli in them under similar circumstances. He agreed with Dr. Bristowe that the fluid acted as a septic poison. It certainly caused the disintegration of caseous material, but he considered the treatment was not justifiable except in cases where there was a ready exit for the products of the breaking-down caseous material and no risk from the danger of a collection of pent-up pus.

At the Medical Society of London, on Monday evening last, Dr. Heron read a paper in which he gave a detailed account of cases treated by Koch's method. He divided his cases into three categories: (1) Those which, according to Koch, offered the best prospect of benefit. Of these, he was unable to affirm that any had been cured beyond danger of relapse. (2) Those in the second stage (consolidation). (3) Those with signs of cavities. In none of the cases previous to treatment was there any evidence of a tendency toward a cure, or even to be stationary. In a certain number of cases the patients had improved in health under the use of "tuberculin;" cough was less troublesome, night-sweats disappeared, and breathing was more free. There were also changes in the physical signs, the coarser râles gradually became

finer, getting less and less marked, to such an extent that it was sometimes difficult to distinguish between crepitation and a dry rub. This was the condition in the first class of cases, but it was applicable *mutatis mutandis* to the others. Dr. Heron said he thought the effects observed justified the use of the remedy in early cases of pulmonary tuberculosis. In lupus vulgaris the results he had seen had been so marked that he felt sure the remedy would soon be regarded as an essential part of ordinary treatment, but the danger of the reappearance of the disease was so great that, as Koch himself had said, auxiliary methods should always be resorted to.

Dr. Theodore Williams said he had tried the treatment in fourteen cases of undoubted phthisis, and considered its results to be disastrous. No matter how early the treatment was commenced, the injections were soon followed by the presence of lung-tissue in the sputum. Even as a means of diagnosis, he did not think the fluid was to be relied upon.

Dr. Radcliffe Crocker said that in some cases of lupus he had obtained more reaction from local injections than when the fluid was injected in the back. Latterly he had been in the habit of clearing out the diseased tissue by scraping, applying one or other of the strong acids, and then employing tuberculin. On the whole he thought that Koch's method must at the most be regarded as only a complementary treatment. It was too early as yet to say anything about the permanence of the results.

Dr. Waterhouse mentioned two cases in which he had tried the treatment. One of these improved considerably; the patient lost her cough and gained weight. He had also had satisfactory results in cases of tuberculous joint disease; in one case the patient made more progress in two months than he had previously made in two years.

Dr. Bagshaw said that in certain cases tuberculin seemed to bring about rapid destruction of lung-tissue, and mentioned a case in which, after thirteen injections, the middle lobe of the lung broke down and formed a large cavity; there were bowel symptoms, pains in the joints, and hæmaturia. Two months later these symptoms had disappeared, the cavity had practically healed up, and the patient was in a much better condition than at the commencement of the treatment.

Dr. Theodore Acland asked whether Dr. Heron considered it preferable to repeat the injections so as to set up a certain tolerance to the remedy, or whether it was desirable to space out the injections so as to allow of a reaction each time? He commented upon the fact that the remedy was still virtually a secret one.

Dr. Heron then replied and said he had seen nothing of the rapid formation of cavities. He thought Dr. Theodore Williams' experience must have been exceptional. With regard to local injections in lupus, he had himself found the injections in the back quite as effectual. After a time a sort of local tolerance was established, so that, if one changed the site of the injections, an increased effect would be observed. With reference to Dr. Acland's question, he had had the best results in those cases in which the early reactions were well marked, and in which subsequent reactions were less well marked. He looked upon this early reaction and subsequent diminution as a favorable sign.

The President (Dr. Douglas Powell) urged that Koch's fluid could not at present be regarded as a secret remedy. We knew its composition and the general method of its preparation.

A Training-School in Tokio.—In the training-school for nurses, attached to the Tokio (Japan) Charity Hospital, the course of study extends over two years, and includes anatomy, physiology, bandaging, theoretical and practical nursing, hygiene, and English. Twenty new candidates are admitted every year. There are now in the hospital over sixty graduates of the school. The hospital is supported by the ladies of Tokio, their annual subscriptions amounting to over twelve thousand yen.

Clinical Department.

STORMY CONVALESCENCE AFTER REMOVAL OF INTRA-ABDOMINAL TUMORS.[1]

By WILLIAM D. HAMILTON, M.D.,

COLUMBUS, O.

THE cases forming the subject of this paper are two in number. Hemorrhage and peritonitis, two sources of dread after such procedures, are here dealt with. They emphasize the point that, to have carefully done such an operation is not all that may be required to effect recovery. The surgeon's interest should not decline, even though, after operation, conditions be favorable. A watchful, experienced eye should supervise convalescence for a fortnight at least after removal of such growths. While the call for secondary interference may be urgent, action should be properly timed.

Special treatises have elaborated the technique of abdominal operations. In supra-vaginal amputation of the uterus for fibroid, most surgeons agree that, when practical, extra peritoneal fixation of the stump is the best method.

In Case I. it was dropped, and that which I feared took place: hemorrhage, and within a few hours; and it nearly killed the patient.

Having passed through this, she had peritonitis, with great distention and obstruction resulting from it. The latter condition supervened at a most unfortunate time. It occurred to a woman who had nearly lost her life from hemorrhage. She was certainly a poor subject for peritonitis. Operative revision was necessary at this stage to relieve her, and was successfully practised. Case II. shows that if there be doubt in the surgeon's mind in regard to the employment of a drainage-tube, he should use one.

CASE I.—Mrs. L. M——, of Bloomingburg, Fayette County, O., was sent by Dr. Foster, of Washington Court House. Twenty-eight years of age, married two years; no children and no miscarriages. Her menstruations were regular, but had of late years been very excessive. In 1885 her abdomen was seen to be enlarged. In June, 1887, after a tedious drive over a rough road, she had great abdominal pain, tenderness, and frequent scalding micturition. This lasted five weeks, confining her to bed. At the time of admission to Mount Carmel Hospital, in November, 1888, pain had about ceased. She was weak and anæmic from persistent menorrhagia. The abdomen was symmetrically enlarged to about the ordinary size of pregnancy at full term. The tumor was semi-fluctuant. Its relations to the womb could not be clearly ascertained. Operation, November 21, 1888, at 2.30 P.M., Dr. Charles S. Hamilton and Dr. Alan N. Dennison assisting. The incision brought into view a solid tumor that had started in the posterior wall of the uterus. The attempt to remove the uterine appendages elicited the fact that it would be impossible to do so without excising the tumor also. A temporary elastic ligature was cast about the stump, and enucleation of the mass was begun. Supra vaginal amputation was finally resorted to as the only practical expedient. The stump being large, the plan was adopted of hollowing it out and stitching it over and over from the bottom with continuous layers of gut. It was closely brought together, until ultimately the union of the peritoneal surfaces left it apparently secured. The provisional ligature was then removed. The appendages had been included with the tumor. The latter—a fibro-myoma—weighed eleven pounds. After cleansing the cavity with warm water, it was noticed that the stump had begun to bleed. The dissection had been carried so deeply that the outside method of fixation could not be done. It was then transfixed with a needle loaded with heavy silk and tied with a Tait knot. The utmost care was used in its application. This controlled

[1] Read at a meeting of the Northwestern Ohio Medical Association, December 12, 1890.

the bleeding effectually for the time. A glass drainage-tube was inserted into the cul-de-sac, and the wound was closed. Pulse 80, tolerably strong and regular. She was put to bed in good condition.

At 9.30 P.M. she was bleeding and her condition was very unpromising. Her face was pinched, pale, anxious, and cold. At 10.30 P.M. pulse, 135 and feeble. The dressings were saturated with blood, which was trickling over the abdominal walls. At midnight, pulse 156, barely perceptible and intermittent. Her breathing was rapid, her extremities were cold. She was restless and apparently moribund. The hemorrhage had ceased. During all this time the foot of the bed was kept considerably elevated. At 12.30 A.M. ten ounces of a warm saline solution were introduced into a vein in the forearm. It refreshed her greatly. She said that she could feel its warming influence. Her color improved and the pulse diminished in frequency and became stronger.

November 22d, 7 A.M.—Was free from pain, had taken some nourishment by the mouth and had retained it. The bleeding never recurred. There was some abdominal distention. A second saline transfusion of eight ounces was given at 8 P.M., and she grew temporarily better.

November 26th.—At 3 P.M. the pulse rapid, flickering, and could not be counted. The distention had greatly increased. Peritonitis with obstruction was present; for, in spite of the frequent and liberal use of salts and enemata in the previous three days, the bowels would not act. Death was again imminent. She was etherized and put on the operating table. The stimulant effect of the anæsthetic was very marked, for her pulse grew stronger under it. The lower five stitches were removed and a hand cautiously introduced. Dark, offensive fluid, and decomposing clots were found in abundance. Adjacent coils of intestines were generally adherent throughout the belly, and were liberated one from another with the fingers, the pedicle and its immediate environment being left intact. Warm boric solution was used to flush the cavity, a large quantity being required to cleanse it. The drain and stitches were reinserted. It was interesting to note the change in her facial expression, the improvement in pulse, and the marked subsidence of tympanites during the twenty-three minutes in which she was on the table. Her bowels acted freely half an hour later, and several times during the ensuing night. Next morning, at 7.15, pulse 132. The distention had receded completely and she continued to take food at regular intervals. Henceforth the only source of anxiety was the rapidity of the pulse, which was never less than 120, until December 16th, when a large slough came away with the Tait ligature. She was discharged December 25th, and has since remained well.

CASE II.—Miss J. G— , seen in consultation with Dr. Ranney, of New Albany, O., aged eighteen, had been growing large for two years. As a rule, has been regularly unwell since the fifteenth year, when menstruation began. The abdominal increase has been symmetrical and progressive. The courses were absent in February and March, 1889. There was very little abdominal pain at any time, although tenderness sometimes existed. Bowels regular. Facies ovariana well marked. Dulness generally present, excepting at the sides and above the growth, where the crowded intestines yielded resonance. Percussion sounds not modified by change of posture. Fluctuation in every diameter. Vaginal examination: uterus normal and movable. Diagnosis: simple ovarian cyst. Entered the hospital. Three days' careful preparation of patient.

Operation, August 2, 1890, 8.30 A.M., Dr. William K. Rogers assisting. Present, Dr. Ranney, Dr. Stephenson, U. S. Army, and others. Incision, four inches. Simple cyst, weighing thirty-five pounds, few adhesions, pedicle of small size. No difficulty at any stage of the operation. Cavity thoroughly irrigated with warm water. No bleeding of consequence. Wound closed with silkworm gut and no drainage-tube used.

August 4th, 8.30 A.M.—Patient perfectly comfortable, no pain; outlook good. 8.00 P.M.: pulse, 132, patient delirious and very restless, no abdominal symptoms; prescribed twenty grains of sulphate of quinine with as many drops of dilute sulphuric acid, dissolved in four ounces of warm water, and to be given by enema.

August 5th, 7 A.M.—A second dose of fifteen grains was given, as the first injection had not been retained. At 4 P.M., an abatement of symptoms; was taking nutrient enemata every four hours; took some nourishment by the mouth and retained it.

August 6th.—Pulse, 102; temperature, 102° F. Rested well during preceding night. No pain.

August 7th.—Pulse, 78. Bowels acted freely.

August 8th.—Pulse, 78; no tympanites; ate bread and tea this morning.

August 10th.—Pulse, 102; temperature, 101½° F. A tympanitic rounded swelling filling left groin and postpubic space. Cul-de-sac tender; some pain; enemata not retained.

August 12th.—Extensive peritonitis; general distention; belly and vaginal vault very tender. Pulse, 120. Countenance dusky, giving her a jaundiced look. Bowels acted slightly. Salts failed to produce a proper response. At 4 P.M. etherized, washed the parietes, removed four lower stitches, and found the wound united. Carried in two fingers. A quart of purulent fluid escaped at once; two or three diverticula, walled with intestines, parietes, or omentum were discovered. Intestines firmly united to abdominal walls at nearly all points about the field of incision. Cul-de-sac full of fluid. The main accumulations were below the wound, as indicated, and above it in the right loin. Washed freely with hot boric water. Inserted a glass drain and closed the wound. Bowels acted seven times during that night.

August 13th, 9 A.M.—Pulse, 72. All distention relieved.

August 26th.—Drain withdrawn.

September 3d.—Slight discharge of pus from lower angle. Discharged September 13th. Has since remained well.

The cases cited are unusual, so far as the necessity of secondary operative interference is concerned. Most of my cases in which operations for the removal of intra-abdominal tumors are required get along in an uneventful way. So far as the facility with which they get well is concerned, the presence of adhesions and of surmountable difficulties in an operative way do not seem to retard convalescence, provided they survive the shock.

It is comforting to know that in a percentage of cases of peritonitis, if ordinary remedial measures fail, we may have recourse to operative revision of the abdominal cavity with some hope of success. If all of the precautions as to cleanliness have been observed, and these are most exacting, a faultless technique should be followed by recovery in a large proportion of cases.

The manner in which peritonitis causes death is evident: The importance and large area of the membrane affected, it being the great open mouth of the absorbent system; the condition of obstruction, due to distention and adhesion of coils of intestine; shock resulting from diaphragmatic pressure; interference with respiratory and circulatory mechanism; the whole depending upon defective drainage or injurious manipulation of the peritoneum.

PURPURA HÆMORRHAGICA.

By AGNES LOWRY, M.D. PARIS,

ATTENDING PHYSICIAN TO CHILDREN'S HOSPITAL, AND CLINICIAN AT PACIFIC DISPENSARY, SAN FRANCISCO.

THE interesting and instructive paper recently presented to the readers of the MEDICAL RECORD by Dr. G. R. Lockwood is by far the most advanced that has yet been written upon this disease. It is very evident that the literature upon this subject, especially of the etiology and pathology, must be entirely rewritten to suit the require-

ments of modern teachings and the discoveries of modern science. Most of the articles heretofore written express the prevailing ignorance, in regard to origin and predisposing causes. The discovery of the bacteria, by Letzerich, pathognomonic of the disease, happily throws much light in this direction.

In response to the desire for discussion, expressed by Dr. Lockwood, I would like to present the report of a grave case of purpura hæmorrhagica which has recently been under my care.

J. S——, female, aged twenty one, medium height, pale, moderately well nourished, and of nervous temperament. Parents both dead. Cause of father's death unknown. The mother had phthisis, but the immediate cause of death was uterine hemorrhage. One uncle and one aunt have died of phthisis.

This patient was housekeeper, with four younger children to look after, and naturally some care and anxiety. She has suffered much from dysmenorrhœa since her arrival in the city, two years ago; is anæmic; is often attacked with faintness, and has had palpitation at times. She had been feeling badly for several weeks, when, December 4, 1890, after sweeping, she noticed small bluish spots over the entire body. These spots gradually increased in number until, when seen by me, December 8th, the entire body, with the exception of the soles of the feet, toes, and palms of the hands, was covered with purpuric patches, varying in size, from a pin's head on the extremities to those as large as half the palm of the hand on the back and sides. The neck, back, shoulders, and chest were sprinkled with them, the larger ones being ecchymotic in character. On the tongue three blisters the size of a lentil, filled with black blood, were found, and on the inner side of the left cheek two large bullæ, similarly filled, were seen. These, after a few days, burst and emptied. Fresh spots, red in color, appeared on the anterior surface of the neck and on the forehead, and a few small reddish points existed on the conjunctivæ. The pillow was stained by oozing of blood from mouth and nose, and the edges of the gums around the teeth were covered with brownish, bloody sordes. A slight epistaxis had appeared for several days, and the patient had been spitting blood, which apparently came from nose and throat. But the symptom calling for immediate attention was an intense uterine hemorrhage. The sheets and clothing were saturated, and a continuous flow existed, which had commenced the previous day. Had menstruated one week previously. Acute pains in the back and sides, and abdominal cramps and nausea, were complained of. Temperature and pulse normal. Prescribed ergot, 1 gr., opium suppositories for the pain, elevation of the pelvis, applications of ice, cold drinks, etc. The hemorrhage continuing, several hours later the dose of ergot was increased in quantity.

December 10th.—The hemorrhage being unchecked a hot vaginal douche was given, pulverized tannin and alum applied to cervix, and the vagina thoroughly tamponed. Ice, quiet, nourishment, and port wine *ad libitum* were ordered. For the intense abdominal pains 1-grain opium pills every three hours, or oftener if necessary, were prescribed, and for the metrorrhagia the following prescription, the ergot only seeming to add to the intensity of the abdominal pains:

℞. Gallic acid ..... ℥ ss.
Acid. sulph. dilut ..... ℥ j.
Tr. opii deod ..... ℥ j.
Infus. rosæ comp. ..... ad ℥ iv.
M. Sig.: One tablespoonful every three hours.

This had no effect upon the flow. The tampons were removed, and with them immense clots from the vagina. A hot alum douche was given, and after application of pulverized tannin the tampons were again inserted. Ordered:

℞. Hq. ext. ergotin (Bonjean) ..... 10 grs.
Aqua et glycerine ..... ℥ jss.
M. Sig.: One tablespoonful, to be repeated in four hours.

December 12th.—Patient weak and sighing, complaining of abdominal tenderness on pressure, and intense uterine and intestinal cramps. Temperature, 100° F.; pulse, 96. The uterine hemorrhage still continued; the tampons acting only as a sieve, retaining the coagulated blood and allowing the serum to pass through. There was a scarcely perceptible offensive odor. Removed tampons and clots from vagina; gave a hot bichloride douche, 1 to 4,000, applied Churchill's tincture to cervix, and tamponed vagina. From this was dated the gradual recovery of the patient.

December 13th.—Temperature, 100° F.; pulse, 120. Seemed better; eats with appetite; bowels regular; no pain.

December 14th.—Flowing recommenced after severe uterine cramps the previous evening. Severe headache and pain in back of neck. Hypodermic injection of ergotole, gtt. viij.

December 15th.—Slept none on account of headache and pain in back of neck. Had a sensation of intense itching over entire body. Flow diminished. Ordered phenacetine, grs. xxx., in two powders, for the pain. Ergotole, ℥ ss., by mouth if flowing recommenced. Removed tampons and gave bichloride douche 1 to 4,000.

December 16th.—Hemorrhage had ceased. Headache and pain in back of neck not relieved. Complains of pain and tenderness over entire spine. Examination of dorsal region showed a circumscribed red spot, the size of the palm of the hand, and very tender on pressure, over the sacrum. It was evidently the commencement of a bed-sore. The patient had been in bed but eight days when this was observed. Covered the place with adhesive plaster, and gave directions to lie on the side, and not on the back. Temperature, 100° F.

December 17th.—Slept well. Hemorrhage almost entirely ceased. No headache. Back less sensitive. From this time the patient made a somewhat slow convalescence, which was only interrupted by a rapid enlargement of the chain of cervical lymphatic glands on the right side, traceable to a small eczematous patch at the upper border of the right ear, which had existed several weeks previous to the attack of purpura, causing a slight induration of these glands. The heart, lungs, liver, and spleen, examined during the course of the malady, were found normal, and the pulse and temperature remained as in health.

Remarks.—As this disease is somewhat rare (excepting the forms of scurvy which are seen frequently in large seaports) until further experimentation is made all conclusions arrived at must be simply conjectural. But, as modern pathology tends to show, it is probable that *all* the forms of disease characterized by the symptoms constitutional infection and spontaneous hemorrhages may be included under one head. Even those classed by Dr. Lockwood as symptomatic, and excluded by him from those forms considered essential, will be probably found to be produced by the bacillus of purpura hæmorrhagica co-existing with some other, and occupying a secondary and inferior position in the production of the symptoms. The recent investigations of Cornil and Babès show the frequency of the co-existence in the blood of two or more species of micro-organisms in many infectious diseases. Thus is explained the production of the complications occurring in these maladies, as, for example, pneumonia in typhoid fever.[1] "Mixed infection," then, will explain the appearance of purpura in the exanthemata and in other infectious diseases, in endocarditis, in the purpuras of the newly born and in the lying-in, in rheumatism, and in the anæmic and cachectic.

Purpura rheumatica, or peliosis rheumatica, undoubtedly is one of the forms of purpura hæmorrhagica; but the term rheumatica should be abandoned as misleading. A case I treated about the same time as the preceding was to me most instructive. In the first stages it seemed a

[1] Medical Press, quoted by MEDICAL RECORD, February 21, 1891, p. 248.

simple urticaria. Later, I changed the diagnosis to erythema nodosum, but the final stages. when hemorrhagic spots replaced the nodes, showed it to be peliosis rheumatica, or purpura rheumatica, although no rheumatic tendency was present. Cause, apparently, sewer-gas poisoning.

It would be logical, it seems to me, to include in the same category with the purpuras, if not in the same class, those diseases (the various forms of erythema, erythema nodosum and purpura rheumatica) considered by Kaposi under the heading erythema exsudativum multiforme. They are described by the Vienna school of dermatologists as affections having identical anatomical changes, but varying in degree. As complications and results, especially of erythema nodosum, Kaposi mentions endocarditis, pericarditis, meningitis, tuberculosis, valvular disease, pleuro-pneumonia, and pneumonia, with a considerable number of deaths (10 in 70 cases collected by Lewin) as the results of such complications.[1] They are all accompanied by more or less reddening of the skin, which becomes bluish in color, and fades away like a bruise, showing more or less blood exudation. Polotebnoff[2] in an interesting article on the various forms of erythema, considers it an infectious disease, or rather a symptom of an infectious disease, which may or may not present a marked eruption.

The mortality in grave cases of purpura hæmorrhagica is high. In the cases reported by Dr. Lockwood there were 13 deaths in 17 cases, and in the total number of cases mentioned by him—30—there were 25 deaths.[3] Jaccoud[4] reports 61 deaths in 199 cases collected by Gintrac, and Dieulafoy[5] says, one-third of these grave cases are fatal. Consequently, it is extremely important to discover, know, and employ the proper therapeutic agents in combating the germ of infection. In the case I have reported improvement seemed to date from the first bichloride vaginal injection. In another case I should use the same remedy internally.

848 Van Ness Avenue.

DISLOCATION OF THE HEAD OF THE ULNA FORWARD, WITHOUT A FRACTURE OF THE RADIUS.

By CHARLES G. BRIGGS, M.D.,

GLOVERSVILLE, N. Y.

Mrs. H. R——, aged seventy-two. On January 18th the patient, in attempting to walk from near the head of her bed, toward the left, around its foot, became dizzy, just before turning the lower corner, falling forward upon her face. In attempting to save herself she grasped the foot-board with her left hand, placing it in such a position that the left half of the wrist was covered by the point of an overhanging scroll. As the arm went forward with the body the scroll-point applied itself firmly to the back of the ulna, holding it stationary, and thus dislocating the head forward.

Upon examining the case I found the ulnar prominence on the back of the wrist completely absent, and in its place a slight depression; anteriorly there was an unnatural fulness on the ulnar side of the wrist; the hand was supinated. Reduction was accomplished by extension from the hand, and counter-extension at the radius, the hand being forcibly pronated, and pressure used backward upon the head of the ulna. The patient, on account of shock from the fall, was obliged to keep her bed for several days, during which time hot fomentations were used and the arm allowed to lie naturally across the body.

Eight days after the injury, when the patient was carrying the arm in a sling, the joint became painful again, pronation and supination being accompanied with difficulty.

I found the bone partly slipped forward. I replaced it and applied a straight splint to the front of the arm, placing a compress under the head of the ulna to keep it in position. It immediately improved under this dressing, and in a few days the pain almost entirely subsided, though the splint and compress were used for several weeks to give the ligaments ample time to heal. All dressings have been removed now for three weeks, the joint being apparently sound. My apology for presenting this case is its rarity.

Hamilton gives twelve as the whole number of these cases recorded.

A CASE OF UNUSUALLY HIGH TEMPERATURE IN A CHILD—DISEASES OF CHILDREN AND THE PLAGUE OF OLD WOMEN.

By F. W. VAN DYKE, M.D.,

GRANT'S PASS, ORE.

A short time since I was called to see a child of fifteen months, sick with malarial fever. She had been ailing about five days before I was called. There was nothing unusual about the case, as the fever ranged from 99° F. to 102° F. until twelve hours before death, when it ran up to 105° F. I saw the little patient again four hours before death, and on taking the temperature I was surprised to see the thermometer register 110⅘° F. I immediately knocked down the register and proceeded to take it again, and it registered for the second time 110⅘° F. My thermometer is a Hicks certified, and I know it is accurate and in perfect condition. I think that this nearly, if not quite, beats the record. In fifteen years' practice I never saw any higher temperature than 107° F. until I met with this case. It may not be out of place to add that the child was always sickly, bottle-raised, and highly nervous.

On October 14th last I was called to see an infant of six months suffering from an attack of entero-colitis. There were from six to fourteen mucous and muco-feculent passages a day, tinged with blood. The baby had always been weak and was raised on the bottle. During the summer it had had two attacks of summer complaint from which it made a slow recovery, consequently when entero colitis set in it had not much vitality to resist the disease. The case dragged along for weeks with periods of gain, after which relapses would follow in the most exasperating manner. This condition of affairs lasted eleven weeks, when under the use of appropriate remedies and sterilized milk, combined with unremitting care and attention, the little patient recovered, much to my joy.

Meanwhile that ubiquitous cyclopædia of ignorance and misinformation had not been idle; I refer to the old women who are ever present on such occasions. They flocked in and recommended one thing and another as sure cures. One recommended a teaspoonful of paregoric every hour as being certain. Another wanted the mother to give it a teaspoonful of melted mutton tallow. Still another sent word that the baby's clothes had been changed too often; while others said the baby had its liver grown fast to its side and that it must be shaken loose. Consumption was also a favorite complaint with some. One woman sent word that she did not believe in doctors anyhow, and that if the parents would send the child to her she would cure it. Space is too short to enumerate the diseases and the remedies that were recommended; sufficient to say that the parents were intelligent people and had perfect confidence in me, and followed out my directions to the letter, for which I feel grateful. There were two points on which all these eminent therapeutists and clinicians agreed, and these were, that a change of doctors was absolutely necessary and "that the baby could not live three days longer." The parents have not yet been forgiven for not dismissing me,

[1] Kaposi: Hautkrankheiten, p. 292.
[2] Polotebnoff: Monats. f. prakt. Dermat., 1887, quoted by Van Harlingen in Sagous' Annual of Universal Medical Sciences, 1888, vol. ii.
[3] Lockwood: Medical Record, February 7, 1891, p. 156.
[4] Jaccoud: Pathologie Interne, tome ii., p. 1076.
[5] Dieulafoy: Pathologie Interne, tome ii., 2e partie, p. 605

and I am held up to odium because the child recovered. This may not be very interesting reading to some who doubtless would prefer something delightfully abstract and speculative, but of those who read this many will recognize it as a faithful picture of what occurs in every-day life. The great majority of women are born with an innate and profound knowledge of children's diseases, which remains latent until the fortieth year, after which it breaks out like a house on fire and reaches its greatest intensity at about sixty.

It is degrading and humiliating to think that physicians all over the country have to be exposed to the lying and slanderous tongues of such cattle as I have described above. Many a sensitive man has been goaded to despair by the meddling officiousness of such creatures, and I firmly believe that nine-tenths of the trouble among doctors in smaller places comes from the interfering of women who have more time to gossip than sense to use.

Instead of offering to help and be of assistance when people are in distress and suffering, these owls of midnight sit around and tell of all the terrible things that have fallen within their observation. They encourage women in labor by telling them of all the deadly complications that might happen, how Mrs. So-and-So died of fever afterward, and that if Dr. Blank had been in attendance instead of Dr. X. she would have recovered, and "that Dr. X. could not doctor a dog for her." They always predict death, and if the patient gets well they are grieved and injured. These are but a few of the trials that beset the doctor in country practice, and as long as they have always been with us, I suppose they always will be until the end of time, or until women cease to be born.

HOT WATER AS A REMEDIAL AGENT.

By LEVIN J. WOOLLEN, M.D.,

WASHINGTON, D. C.

Moist heat as a therapeutical agent has not received the attention from medical writers that its merits deserve. In the future the remedial effects of hot water are destined to play an important part in the relief of pain and the cure of disease.

It is not necessary to allude in this paper to the use of hot water as a surgical dressing after amputations, as that subject has been ably treated by Dr. Varick, of New Jersey. In the writer's opinion, hot water is excelled in such cases by dilute alcohol only.

In some cases of cholera morbus copious draughts of hot water, conjoined with injections of the same, will afford marked and speedy relief. For many years past the writer has used this treatment with such good effect that in some cases it was unnecessary to prescribe any drug whatever—even the usual hypodermic injection of morphine being dispensed with.

In a case occurring some years ago, the patient had been vomiting for three or four hours when the writer saw him. The cramps had become severe, causing him to utter agonizing cries. To relieve the severe straining produced by the vomiting, he was directed to take a large drink of water as hot as could be swallowed. This being ejected after a little while, a second draught was given which put an end to the emesis. As the attack had been caused by imprudence in eating, and as the bowels had not been moved, a large injection of very hot water was then thrown into the bowels. In a short time this was passed by stool, after which the injection was repeated. Relief from the cramps was speedy and permanent, and although I had charged my hypodermic syringe with one-fourth grain of morphine, I withheld the use of it for the time being, intending, as soon as the pain and cramps returned, to control them in the usual manner. The patient, however, soon sank into a sound sleep from which he awakened free of all trouble, except the debility and soreness that follow such attacks.

Since then I have pursued the same course of treatment in many cases, and although I have been compelled to use morphine hypodermically in some of them, yet the hot water has always proved a reliable adjunct in the treatment.

In cholera and cholera morbus, the cramps are supposed to be caused by the blood parting with its watery portion, thus sadly interfering with the general circulation. This being the case, it is plainly our duty to restore water to the blood as speedily as possible. Water is much more readily absorbed by blood-vessels when it is warm than when cold. By introducing hot water into the bowels as well as the stomach a large absorbing surface is reached by the fluid. In addition to this the effect of the heat on the terminal branches of nerves acts beneficially upon the circulation by stimulating the heart to increased action.

I have no doubt but that in Asiatic cholera hot water properly used will be found of more service than any other treatment. Given by the mouth and by injection through a rectal tube, it would, in my opinion, have a marked effect in bringing about reaction in severe cases; at least it is certainly worthy of a trial.

In cases of cholera that have passed into the stage of collapse, and when, under ordinary treatment, no hope can be entertained of the patient's recovery, I would not hesitate to make a small incision through the linea alba and flood the peritoneal cavity with hot water. The peritoneum absorbs water with great rapidity, and in cases of profound shock following operations upon the abdominal and pelvic organs, no other means acts as speedily and efficiently in restoring the circulation as does flooding the peritoneal cavity with hot water.

In the collapsed stage of cholera, where the pathology of the disease may be attributed to dehydration of the blood, it seems plain that to restore water to the blood as speedily as possible should be the main object of treatment. In such cases no organic lesions have occurred in any of the viscera of the body, but they are in a condition to resume their functions when their normal stimulus is applied to them. Hence if the fluidity of the blood be restored, and if the heart be artificially stimulated for a while by electricity, it would seem that death might be averted. These indications can most likely be met by taking hot water into the stomach, by injecting it in large quantities into the bowels, and in *extreme* cases, by flooding the peritoneal cavity with it.

1701 Ninth Street, N. W.

SWELLING OF THE FEET IN WARM WEATHER.

Dr. C. Ferdinand Durand, of Lockport, N. Y. writes: "The discussion of the possibility of idiopathic hydrops recalls a case I had brought to my notice the facts of which are as follows:

"Mrs. W——, blonde, aged thirty-two, mother of three children, perfectly healthy in every way, suffers during warm weather every summer from swollen feet and ankles; the swelling is often severe enough to prevent the wearing of her ordinary shoes. At other times, that is when the weather is not unusually warm, this swelling does not occur. Treatment was not asked for the condition, and I looked upon it as due simply to relaxation of tissues brought about by the high temperature and the dependent position of the parts.

"The trouble was worse at the menstrual periods, but no anæmic condition or organic lesion was present."

St. Paul's School, the military academy of Garden City, L. I., has been closed temporarily, owing to an outbreak of scarlatina. One cadet died of the disease. All the buildings have been fumigated, and every possible step taken to prevent the spread of the disease.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from April 26, 1891, to May 2, 1891.

McKEE, JAMES C., Lieutenant-Colonel and Surgeon. Having been found incapacitated for active service by an army retiring board, by direction of the Secretary of War is relieved from further duty as attending surgeon and examiner of recruits at Philadelphia, Pa., and will proceed to his home, and report by letter to the Adjutant-General of the Army. S. O. 96, par. 3, A. G. O., Washington, D. C., April 28, 1891.

Official List of Changes in the Medical Corps of the United States Navy for the week ending May 2, 1891.

LUNG, GEORGE A., Assistant Surgeon. Granted two months' leave of absence.

HOEHLING, A. A., Medical Inspector. Detached from Navy Yard, League Island, and waiting orders.

JONES, W. H., Surgeon. Ordered to Navy Yard, League Island.

NORTON, O. D., Passed Assistant Surgeon. Detached from Naval Hospital, Chelsea, Mass., and waiting orders.

CORDEIRO, F. J. B., Passed Assistant Surgeon. Ordered to Naval Hospital, Chelsea, Mass.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending May 2, 1891.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	5	3
Scarlet fever	184	37
Cerebro-spinal meningitis	3	6
Measles	300	14
Diphtheria	67	12
Small-pox	2	0
Varicella	0	0
Pertussis	0	3
Erysipelas	0	0
Mumps	1	0
Rötheln	0	0

Diseases Prevailing in the Several Countries.—*Great Britain*—Scotland: Phthisis pulmonalis, croup, diphtheria, and rheumatism. England: Bronchitis, pulmonnitis, and all affections of the respiratory organs. Ireland: Typhus fever, including the exanthematic form, endemic, and permanent. Scrofula, largely prevalent. Recurrent typhus and enteric fever, generally diffused throughout the United Kingdom. Scarlatina in its gravest forms, very frequent; intermittent fever, very rare; small-pox and measles present no special features.

Holland.—All forms of intermittent fever, diarrhœa, dysentery, and hemorrhoidal diseases, general; phthisis pulmonalis, decreasing. Small-pox, of rare occurrence during a long period, epidemic in 1870–71. Alcoholism, mental diseases, and convulsions, rare by comparison with the percentage in other countries in the same latitude.

Belgium.—Phthisis pulmonalis, widely diffused, causing in the central portions of the country more than one-fifth of the mortality. In Brussels the number of consumptives is greater, relatively, than in any other city of northern or central Europe. Diseases of the digestive apparatus and the nervous centres, with rheumatism, predominate in the pathology of Belgium. Exanthematic typhus, recurrent fever, and cancer give a lower per centage than in contiguous countries. The same is true of alcoholism.

France.—Phthisis and inflammations of the respiratory organs; in southern and eastern France abdominal typhus is much diffused; malaria prevalent along the western and southern littoral; goitre and cretinism endemic in the mountain districts; cerebro-spinal meningitis frequently epidemic, as also miliary fever in the north of France. The last named disease is almost unknown in other European countries.

Spain and Portugal.—Malarial diseases, intermittent in the north, remittent in the south, associated with dysentery, and frequently fatal; enteric fever, frequently epidemic and malignant; yellow fever, imported by way of the sea in 1800, 1820, 1857, 1871, and 1878; mortality from phthisis unimportant along the coast, but frequent in the central provinces; cerebro-spinal meningitis, frequently epidemic; pellagra, scalius, and scleroderma, endemic in some provinces; syphilis, widely diffused and of very serious character.

Italy.—Malarial fever and pellagra are the most prevalent diseases. Pellagra, the genesis of which is coeval with the introduction into the country of Indian corn, infests the northern provinces; goitre and cretinism, endemic in Piedmont, Lombardy, Luguria, and Tuscany; typhus fever, apoplexy, and renal calculi, frequent. Cholera and plague belong to the eastern littoral. Yellow fever was imported into Leghorn early in the present century. At Malta malaria is unknown, while dysentery is frequent.

Switzerland.—Pulmonary affections, rheumatism, goitre, cretinism, and deaf-mutism are the diseases of most frequent occurrence.

Austro-Hungary—Malarial fever, bilious typhus, and recurrent typhus prevail in the Danubian provinces; dysentery, phthisis, cardiac affections, apoplexy, arthritis, and rheumatism, diffused; malignant syphilis, frequent; scrofula, enormously diffused.

Germany.—Typhus fever in the exanthematic and recurrent forms, frequent; epidemics of diphtheria, frequent and disastrous; neuropathy and apoplexy, very frequent; alcoholism, in the same percentage as in other countries; goitre and cretinism, endemic in the mountain districts; phthisis, less than in Vienna; dysentery and scrofula, rare. As regards trichinosis, Germany, and especially Saxony, is in the front rank of European countries.

Denmark and Iceland.—Pernicious intermittent fever, diminished; cancerous diseases, urinary calculi, alcoholism, and mental disorders, increased; phthisis, less frequent than in contiguous countries; small pox and measles occur in light form. In Iceland influenza and catarrhal bilious fever predominate; convulsions and tetanus of the new-born, frequent; also rheumatism, neuralgia, hysteria, and chlorosis; phthisis, unknown; malaria and syphilis, almost entirely absent. In a few districts scabies is endemic.

Sweden and Norway.—In Norway malaria is inconsiderable, while Sweden is seriously affected with it as high as 65° north latitude. In Norway phthisis has diminished; in Sweden it is widely diffused. Rheumatic affections and inflammation of the air-passages furnish an almost equal contingent of cases for the two countries. The same is true of diphtheria. Ophthalmic affections are confined to the northern provinces.

Russia.—Malaria is widely diffused in West and South Russia. Intermittent fever of a malignant type prevails along the banks of the great rivers that empty into the Black and Caspian Seas. Phthisis is rare in North Russia and in Siberia, but in Middle Russia, especially in Moscow and St. Petersburg, it attains a considerable percentage. Diphtheria has of late years appeared as a devastating epidemic. Violent epidemics of dysentery occur in the southern provinces at the close of the hot season.

Turkey in Europe.—Malarial and enteric fevers are widely diffused. Typhus fever in the exanthematic form is persistent in Constantinople. Diseases of the respiratory organs, due to variations in temperature, are very frequent. Syphilis is enormously diffused. The plague has not appeared since 1842.

Greece.—Intermittent and remittent fevers, with gastric and cerebral complications, predominate. During the winter acute and chronic rheumatism and chronic pleuritis prevail. Phthisis is quite frequent. Syphilis, cholera, scabies, and plague have never prevailed in Greece to the same degree as in contiguous European and non-European countries.

A Primitive Cæsarean Operation.—Dr. J. B. Baskerville records the following unique case: There was a Cæsarean section performed by a quack, along in the fifties, in the County of Bland, Va., under peculiar circumstances. The quack never attended medical lectures anywhere. The only knowledge he had of anatomy was gained from his book. The section was performed upon a woman who had given birth to children before the operation, without assistance, and in like manner afterward. The details of the operation were not divulged by the operator; nor did he give the indications, as he understood them, for operative procedure.

Voluntary Constipation.—In an article in the *Revue de l'Hypnotisme*, entitled "Voluntary Personal Uncleanliness," Dr. Galippe calls the attention of the authorities to the necessity of reforming the sanitary arrangements obtaining in most French educational establishments. Some facts related by him in this connection will be read with astonishment by those who are not familiar with the horrible filthiness of most French closets. He says, "We need hardly remind the reader of the disgusting filthiness of most (school) closets, and I have known sensitive children who refuse to repair to these places until they were absolutely obliged to do so, such is their horror of the stench that there assails their nostrils, and the dirt they may bring away with them. I have known of many children who have suffered much from this voluntary constipation, and of others who, affected with diarrhœa, have for a whole week passed their motions into their clothing." Dr. Bourneville, in a notice of this article (*Progrès Médical*, February 14th) says that he has for years urged the necessity of endowing not only schools but also hospitals and barracks with decent closets. He has endeavored to convince the French public of the feasibility of such a stupendous feat by having constructed for his idiot and imbecile child-patients at the Bicêtre closets, the cleanliness of which strikes the French visitor with astonishment. M. Bourneville also demands for each school a complete set of bath-rooms, and calls for regulations rendering the use of a bath obligatory on the scholars.—Paris Correspondence of *The Lancet*.

Better than Koch and Brown-Séquard Combined.—Dr. Caius, some four hundred years ago, when an old man, tried to regain his youth by sucking the breast of a woman. He died of stone—not of old age, at least. A more successful application of this remedy is reported to us by a correspondent, who says that "a party who had every indication of the last stages of consumption has regained former health, and attributes it to obtaining his nourishment from sucking a healthy nursing woman."—*Dixie Doctor*.

Hunger and Infection.—It is a well-known fact that hunger predisposes to certain diseases, but it has been reserved to two Turin doctors to demonstrate the increased liability experimentally. Their observations were carried out with the virus of bacillus anthrax on pigeons, a disease to which these birds are, under ordinary circumstances, refractory. They found, however, that six days' total deprivation of food rendered the birds amenable to the virus, on condition that food was still withheld. If, however, food was given at the same time as the virus, then they still successfully resisted infection. Further, when starvation was continued for two days after the inoculation, and food then given, the development of the disease, though not prevented, ran a slower course. Lastly, the virus proved capable of infecting birds well fed up to the date of inoculation, but starved subsequently. The line of investigation is evidently one which admits of further research, but the moral is obvious.—*Medical Press and Circular*.

Gum Arabic, which was once universally used, has become very scarce and dear, and a substitute for it is being made from starch.

Treatment of Pigmentation in Pregnant Women.—In the *Journal de Médecine de Paris*, the following ointment is recommended to be rubbed into the affected parts twice daily, to remove the pigmentations which so often disfigure pregnant women:

℞. Cocoa butter,
Castor-oil.....āā ʒ ij ʒ.
Oxide of zinc..... gr. v.
Yellow oxide of mercury..... gr. ij.
Essence of rose, enough to perfume.
—*Therapeutic Gazette*.

The Cure of Persistent Dandruff.—The following is recommended in the *Lancet* by Mr. Purnell for the relief of this troublesome affection: An ounce and a half of iron wine, one drachm of liquor arsenicalis, three drachms of syrup, water to two ounces. Of this one drachm is to be taken in water after meals. Then an ointment consisting of four drachms of the red oxide of mercury ointment, an ounce and a half of benzoated lard, and two minims of the essence of bergamot should be rubbed thoroughly into the roots of the hair, and its use continued for some time.

Sneezing One's Teeth Out.—The report of the physician in charge of the Ningpo Missionary Hospital for the past year contains some interesting observations on tooth-drawing in China. Dr. Daly remarks that Chinese teeth are much more easily extracted than those of Europeans. The native dentists are said to possess a wonderful powder, which is rubbed on the gum over the affected tooth; after an interval of about five minutes the patient is told to sneeze, whereupon the tooth falls out. Dr. Daly has offered a reward of $100 to anyone performing the operation in this way in his presence, on condition that he is allowed to choose the tooth and examine the mouth before and afterward. So far no one will consent to perform the operation on these conditions.—*British and Colonial Druggist*.

Treatment of Carbuncle.—Dr. J. L. Napier, of Blenheim, S. C., uses pure carbolic acid locally in the treatment of carbuncles. He paints the whole carbuncular mass with pure carbolic acid three times a day, until the mass begins to lessen and the slough is detached. If the carbuncle is seen before suppuration has begun, in three or four days it will abort. The treatment, as above described, reduces the time of treatment from weeks to days; and besides that, the acid, being a local anæsthetic, adds very much to the comfort of the patient by relieving the pain—so much so that, after the first application, very little anodyne is needed.—*North Carolina Medical Journal*.

Regulating the Price of Drugs.—The Medical Department of the Ministry of the Interior in Russia has recently issued a price-list of medicines, by which the prices of seventy or more staple drugs have been reduced to a very low rate. The measure was adopted in consequence of the exorbitant charges made by many of the apothecaries in the large cities. The publication of the price-list is accompanied with an order stating that any druggist who charges a higher price for his medicines than the official list prescribes will incur the penalty, upon conviction, of a heavy fine.

Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 39, No. 20.
Whole No. 1071.

NEW YORK, MAY 16, 1891.

$5.00 Per Annum.
Single Copies, 10c.

Original Articles.

OBSERVATIONS ON RATIONAL THERAPEUTICS.[1]

BY S. HENRY DESSAU, M.D.,

ATTENDING PHYSICIAN TO THE MONTEFIORE HOME, PHYSICIAN FOR DISEASES OF CHILDREN, OUT-DOOR DEPARTMENT MOUNT SINAI HOSPITAL, NEW YORK.

AT the present time there can be no possible doubt in the mind of any seeker of truth in the domain of medicine that rational therapeutics *must* be founded upon the correct relationship existing between the physiological action of drugs and the manner in which the causation of disease affects the healthy state. This proposition implies a full knowledge of physiology, and in order for this knowledge to be of use in the application of remedies to correct diseased action we must also have an equal knowledge of the manner of action of the causation of disease upon the physiological process. Here has been the wider field of investigation in later years, and such immense progress has been made in this direction that many ideas held concerning therapeutics as taught by former leaders of medical thought have now been almost, if not entirely, abandoned. Nevertheless, there have been faithful and diligent workers quietly investigating the study of physiology in the laboratory, who, with improved methods and instruments of precision, have, after most careful and fully confirmed researches, gathered together a store of facts that is serving as a foundation upon which to build a more correct system of therapeutics.

The necessity and timely need for a better therapeutical guidance is clearly indicated by the frequent contributions to medical literature on this subject, both at home and abroad, by writers who recognize the uncertainty of our present method. For when we look about us and take a mental survey of the medical situation we find but little progress has been made toward a more certain means of cure. There are various forces at work to explain this condition. Since the rapid advancement that has been made in medical knowledge in recent times, the principal direction of thought has been to discover, as I have before hinted, the causation of disease, and, if possible, a means to remove it, which would make the way to a return to the healthy condition plain sailing. "With the removal of the cause the effects would cease." In this direction the discovery of microbes as the specific agents of contagious disease has led up to an immense field of investigation which will undoubtedly largely assist in causing a reformation of our therapeutical ideas. But I do not think it venturing too much to say that further researches in bacteriological pathology will, with perhaps few exceptions, show that our main dependence for the successful treatment of diseases, so caused, will be required to be based upon the physiological action of remedies, and a correct application of such action to the diseased condition.

The question has been already raised whether the symptoms of disease caused by the introduction of microorganisms into the blood were the effect of the germ-poison itself, or a product emanating from the growth of the germ upon the blood and tissues. This product, resembling an alkaloid in its chemical behavior, and known as ptomaine, will, there is every reason to believe, hereafter enter largely as an important factor in the discussion of the etiology of disease. The action of ptomaines upon particular organs and nerve-centres has already been studied by Brieger and Brunton, with special reference to their production and destruction during the process of normal digestion. It is stated by these authorities that when the blood is charged with ptomaines in quantities larger than can be removed or destroyed by the liver, symptoms of poisoning are produced, in consequence of an irritation of the nerve-centres from the blood that flows through them. Under the influence of drugs acting as stimuli upon the hepatic function, such symptoms can be prevented by urging the liver to increased action and consequently complete elimination of the ptomaine.

Thus we see that it is not at all improbable that germ-diseases may depend for their successful treatment upon remedies administered upon the principle of their physiological as well as their antiseptic action.

On a closer examination of facts with which we are acquainted, derived from the natural history and management of disease, we find that the wisest and often most successful plan of treatment is to aid nature in her own method of restoring the healthy equilibrium. In this I believe that the physician is simply fulfilling his true calling, by acting, as he has been called, as the intelligent handmaid of Nature.

This view need not conflict with the simpler one, of a removal of the offending cause, which appeals with a mighty force to our reason. For though there are many causes of a gross character, such, for example, as a stone in the bladder or the intestines filled with undigested matter that may be easily removed, there are many other causes of disease of a far more subtle nature (such as any of the micro-organisms, or abnormal chemical products, the result of a bad manner of living or hereditary influence, which, mingling with the blood, produce all manner of disturbance in the economy through irritation of the nervous centres, and through these, the vascular mechanism they control) that can only be removed, if at all, by an exaggerated action of some contrary or compensatory arrangement.

Right here it may be remarked that the grand stimulus to the progress of surgery in recent years is due to the reliance upon the fact that this noble art was capable of demonstrating, both to the laity and the profession, that where the cause of a disturbance of health was of such a character that it could be reached and removed, no matter in what part of the body it was located, a restoration to health would be secured and life prolonged.

Another prolific cause of disturbance of the healthy state is inherent to the nerve-centres themselves. As such are those conditions, the result of over-taxation of the cerebro-spinal functions, where the presence of a chronic congestion eventually produces organic changes in the nerve-cells. This chronic congestion is evidently the result of an increased blood-supply to the parts, depending upon some reflex irritation of a vaso-motor fibre, originating in an emotion or similar disturbance of a higher centre. In this large class of affections the cause, though often plainly inferred, is of an evanescent character, but leaves behind a more or less lasting impression. As such, for example, might be mentioned those obscure disturbances of nervous function said to be caused by a fright, a sunstroke, or severe mental shock; also those long trains of symptoms of reflex origin, the effect of previous excesses.

[1] Read before the Northwestern Medical and Surgical Society.

It is evident that in such instances of diseased action our attempts at therapeutics cannot be directed against the removal of the cause which has fled, but more properly to a restoration of the normal function. An ancient aphorism in medicine is, that "where the increased flow of blood is, there also is the seat of irritation," the reverse of which is equally true. Next to the removal of the cause, the most important object to be attained in our therapeutics is the controlling of the increased blood-supply to the affected part. To accomplish this purpose we must depend mainly upon the physiological action of drugs, and to clearly understand and appreciate such action, a proper knowledge of physiology is indispensable. Brunton emphasizes this by citing the interaction of function that often occurs as the effect of a drug action, that can only be understood by a clear knowledge of physiology. Thus, curare when applied to a wound causes death by paralysis, but when given by the stomach death occurs from convulsions. The same ultimate effect occurs in both instances, only in the latter case paralysis of the respiratory centres occurs before there is complete paralysis of the motor nerves of the extremities, and the convulsive movements are the expression of irritation of the nerve-centres from being supplied by venous blood, the direct result of imperfect respiration from paralysis.

The investigation of the physiological action of drugs, begun by Magendie, Storck and others, a little more than a century ago, has received considerable impulse from more recent researches in physiology, both of which have advanced hand-in-hand and have furnished us with some most important facts. Perhaps the most conspicuous among these to be noted are the influences of the drug action upon the vaso-motor nerves in controlling the blood-supply to particular areas, which will be referred to later on; the preference of the effect of the drug action upon certain organs and tissues, or the so-called elective affinity; and the fact that in all manifestations of the drug action when fully developed, a double action is produced. It is to this double action of drugs that I wish to direct especial attention. I think it can best be studied in that class of drugs that affect principally the nervous system, and have hence been termed neurotics.

Of course it is well known that the bulk of our knowledge concerning physiology, as well as the physiological action of drugs, has been derived from laboratory experiments upon animals. This knowledge has been applied to the human economy, always with certain saving clauses for the difference of structure and degree of creation that will render a precise comparison impossible. Nevertheless, many of the facts obtained have been confirmed therapeutically upon the human body. The one scientific remedy that has been given to medicine was discovered in this way. It is needless to mention nitrite of amyl, introduced by Lauder Brunton in the treatment of angina pectoris.

It is evident from the works of ancient medical writers that the double action of drugs was known from the earliest times, but in an indistinct sort of way only, and that based upon observations of their action in the diseased state. It was a phenomenon that called forth vague and fanciful speculations from certain active minds, as its demonstration grew more familiar, and it is only quite recently that it has been studied in a rational manner. Ringer, Brunton, Phillips, Rubagliati, Ross, and Sharp in England, Schultz and Peiper, in Germany, and Bartholow, Smith, Reed, May, Mayer, and numerous others in this country are some of the workers in this direction. The testimony from all sources goes to show that, in all carefully conducted and recorded experiments, the primary effect of a drug, as manifested in physiological disturbances, is the direct contrary of the secondary or more fully developed effect of the drug

This can be all the more clearly demonstrated according to the class of drug employed and the quantity in action, for where the dose is large and the form favorable for rapid absorption, the primary effect will be of such short duration as often not to attract attention.

For purposes of illustration perhaps I could not do better than refer to a most interesting and instructive paper on this subject by Dr. Boardman Reed, published in the April and May numbers of the *London Practitioner* for this year (1888).

In this paper the author refers to the fact that many drugs, in small or moderate doses, acting as stimulants, exert a depressing effect when larger doses are given, or the small dose continued for a great length of time. This statement is by no means new, and has been explained by pharmacologists on the ground of an over-functional activity, leading to a condition of paralysis or exhaustion. But the fact that those drugs known as sedatives should have a primary physiological stimulant action, as demonstrated by Schultz and Peiper of the University of Griefswald, especially in reference to conium and curare, and corroborated by Nothnagel and Rossbach, is not so familiar to the medical profession, and if so, is not properly regarded in practice.

I have said that the double action of remedies is best studied for the most part in that class of drugs known as neurotics, to which class may be referred most properly, I think, both stimulants and sedatives. There is one other class of remedies that appears to affect particular organs, that also illustrates the double action of drugs in a remarkable manner. Professor Rutherford, of Edinburgh, has given us the clearest and most beautiful demonstration of such action in his report of the action of cholagogues upon the liver of the dog.[1] But here we find quite a different explanation given for the apparent double action of the drug employed. With podophyllin, for example, Rutherford found that large doses diminished the secretion of bile, but increased the purgative function of the intestines; moderate doses first increased and then diminished the bile secretion, while smaller doses prolonged the increased secretion of bile. It is reasonable to infer that the smaller doses of podophyllin increased the bile secretion by virtue of a stimulation of the inhibitory vaso-motor nerves controlling the hepatic circulation, thus causing dilatation of the arterioles and an increased flow of blood to the part, while the large dose caused an over-irritation or paralysis of the same fibres, or perhaps a stimulation of another class, namely the constrictor nerves, causing a contraction of the small blood-vessels with the result of a diminished blood-supply to the organ and a deflection of the circulation from the liver to the intestines, hence depressing the function of the liver and increasing the intestinal action. We have a similar illustration in the action of corrosive sublimate as a cholagogue, and here the therapeutical effect is well shown when this salt of mercury is given in small doses from the $\frac{1}{100}$ to $\frac{1}{50}$ of a grain in severe disturbances of the large intestines, as dysentery. The stimulation of the bile secretion by the small doses employed, produces a derivation of the blood supply from the inflamed area to the liver, thus relieving the engorgement and so acting as a revulsive. There are many more illustrations of a like nature that could be cited, but these two are sufficient to convey my idea.

In our estimation of the physiological influences just described, which have a broad application in therapeutics, it would be well to bear in mind, as pointed out by Foster, that the nervous influences, leading to either arterial dilatation or constriction, differ in degree only, not in kind, and may be considered as merely phases of the same action. These influences will perhaps be more clearly understood if I may be allowed to quote the following explanation of the working of the vascular mechanism as given by Foster in his text-book of physiology. Local dilatation of arterioles encourages a copious flow of blood through the area where the dilatation is taking place, and by reducing the blood-pressure, hinders the flow of blood into other areas. Local constriction, on the other

[1] London Practitioner, vol. xxiii., p. 235.

hand, lessens the flow of blood in the particular area, and by heightening the blood pressure tends to throw the most of the blood into other areas. By augmenting or inhibitory influences (constrictor or dilating) applied either to peripheral mechanisms or to cerebro-spinal centres, and called forth by stimuli either intrinsic and acting through the blood, or extrinsic and acting through nervous tracts, the supply of blood to this or that organ or tissue may be increased or reduced; the surplus or deficit being carried away to or brought from either the rest of the body generally or some other special organ or tissue. Physiology further teaches us that what was just before referred to as differences in degree of nervous influences means, that while a slight irritation, or stimulus so-called, of a nerve cell or fibre will cause an augmentation or exaggeration of its normal function, an excessive or frequently repeated application of such stimulus will cause exhaustion of the nerve force, which will be indicated by either a paralysis or cessation of its function, or the increase of a compensatory action, known as inhibitory, owing to the disturbance of the normal equilibrium of the mechanism. I think that there is much reason to believe that this is the rational explanation of that phenomenon of drug action known as reaction.

I have long thought that a more rational therapeutics could be founded upon the utilization of the primary physiological action of drugs when given in their minimum quantity to produce this effect, eliminating from consideration, of course, all chemical antidotal actions that drugs possess. I believe that I was one of the first in this country to call attention to this point, in a paper that I published in the New York MEDICAL RECORD, July 28, 1877, upon "The Value of Small and Frequently Repeated Doses." Since that time the subject has been taken up by many worthy members of the profession in all sections of the country, and the medical journals have contained frequent references to it. To my mind it presents many advantages, chief of which is the simple and rational principle of applying the uncomplicated action of a drug to a diseased action, which is of a like uncomplicated nature, as a means of cure. That is to say, we obtain the action of the remedy without its consequent reaction, which in this instance would be equivalent to the restoration of normal physiological action.

The secondary advantage of giving a remedy with little or no disagreeable taste, either in the form of a small sugar-of-milk tablet or an aqueous solution, is not to be slightingly regarded, not only in our practice among children but also with adults of a delicate and fastidious taste.

I have endeavored to show, without going too deeply into details, that a certain class of drugs affecting the nerves and another the special organs and tissues, have an undoubted double action, the primary or initial action being the direct contrary of the secondary or complete physiological action; and that the primary action, being, so to say, devoid of reaction when obtained from an exhibition of the minimum dose, can be scientifically applied for its direct action against those disturbances of the economy corresponding in their effects to the secondary or full physiological action of the drug employed.

The question of dosage necessarily becomes one of the highest importance, and it behooves us to turn our attention with all due judgment and deliberation to a reformation of this subject.

47 WEST FIFTY-SIXTH STREET.

The Decimal System in Russia.—The Russian Government has recently issued a decree to the effect that the decimal system of weights and measures shall be the only legal standard in the empire after the expiration of five years from this date. This will leave the English-speaking nations alone in their refusal to adopt the new system. The use of the decimal system is legal in this country, though not obligatory.

SOME UNUSUAL CASES FROM DERMATOLOGICAL PRACTICE.

BY GEORGE T. ELLIOT, M.D.,

DERMATOLOGIST TO THE DEMILT DISPENSARY AND THE NEW YORK INFANT ASYLUM; ASSISTANT PHYSICIAN TO THE NEW YORK SKIN AND CANCER HOSPITAL, ETC.

CASE I. *Acute Circumscribed Œdema.*—The patient, male, aged forty-nine, came to my office in September, 1890, for a trouble which had lasted for eight months. He had always enjoyed good health up to a month before the inception of the disease, being also a strong, stout, and functionally healthy man. At that time he had had attacks of constipation alternating with diarrhœa, and, during the existence of this condition of disturbed function the process developed. It began on the feet, in the form of an elastic swelling as large as a hen's egg, which itched somewhat, and which disappeared at the end of twenty-four hours. Since then he has had many attacks, sometimes an entire foot, or both hands or knees becoming suddenly enlarged to a great size, and after persisting for twenty-four to thirty-six hours, becoming normal again in appearance. On other portions of the body lumps, the size of eggs, or larger, would also arise, or the face might become swollen to twice its natural size, or the lips would protrude like two "sausages," or the nose would be as large as an ordinary lemon. The tongue has, likewise, been affected so that he could not speak or swallow, and twice he was nearly suffocated by the swelling in the throat. With each attack of the œdematous swellings there have also been outbreaks of ordinary urticarial lesions on various portions of the body, and these would persist for a few days after the disappearance of the former manifestations. The patient states that the appearance of the swellings was always preceded by an uncomfortable sensation, an itching and formication in the portion of the skin to be the site of the lesion. After their development, they would remain stationary or gradually disappear, rarely remaining present longer than thirty-six hours. The itching from the urticaria has been so severe and the distress occasioned him by his disease has influenced him so greatly that he has suffered from loss of sleep and appetite, and has lost thirty-eight pounds in weight. In June, 1890, he was advised to take belladonna. Since doing so he has gotten much worse, the recurrences of the trouble have been more frequent, and the pruritus more intense. He has also noticed that similar conditions arose whenever he allowed himself to get costive.

When he came to me the entire right cheek was swollen to double the size of the left one. The skin was not reddened, but of the same color as the unaffected side, and the swelling was elastic and somewhat tense. The itching was only slight. Over the body were numerous lesions of ordinary urticaria, scratch-marks, and pigmented spots. The bowels were very costive, moving only every three days, and only then after large doses of pulv. glycerrhiz. co. The treatment recommended the patient consisted of laxatives, his diet was regulated, and he was advised to leave off alcohol in every form. He did very well for a few weeks, but was seen in the beginning of November, suffering from a severe attack situated in the pharynx, the tongue being also affected, and his right cheek as well. He had allowed himself to get costive again, and, besides, had been drinking whiskey—five or six times daily—for several days previous to the attack. Simultaneously with the swellings there had also appeared numerous lesions of urticaria over the trunk and extremities. These were of all sizes, but mostly that of a twenty-five cent piece.

The diagnosis of acute circumscribed œdema should offer no difficulty, if the development of the localized swellings and their course are observed. In connection with the disease, general disturbances of various kinds have been observed, these being gastric, intestinal or renal, or of other nature; in one case malaria was the

inducing cause, and it was cured by quinia. In an example of the disease reported by me in the *Journal of Cutaneous and Genito-Urinary Diseases* (January, 1888), constipation seemed to be at the base of the trouble, in that feature agreeing with the case whose history is given here. In this latter the presence of the urticaria and its appearance coincidently with the development of the swellings was a most interesting fact. It would seem to emphasize the close relationship existing between urticaria and circumscribed œdema, that is, that both are only forms of an angioneurosis, originating in a reflex manner from a cause operating in some distant portion of the body, which cause might be gastric, intestinal, or of other nature. Except that the clinical manifestations of the latter are deeper-seated and subcutaneous, and that itching is absent, both have very much the same manner of behavior and course, as far as their objective lesions are concerned. In this case, as well as in two others which have been treated by me, outbreaks of the œdematous swellings occurred whenever there was any gastric or intestinal derangement, but they remained away, for the most part, as long as constipation or any other functional disturbance of the intestinal tract was absent or guarded against; still, relapses were of frequent occurrence. The lesions remained present usually for twenty-four to thirty-six hours after their development and then disappeared without leaving a trace. This is substantially the same course as is followed by an urticaria, though it must be granted that there are qualitative differences between the two eruptions, but yet these are only such as may be said to depend upon the difference in their situation in the skin. Contrary to what is the case in urticaria, however, the prognosis in these cases is not so favorable a one, as relapses continually occur, the disease running a chronic course, and at times producing most alarming symptoms of, for instance, suffocation, when the pharynx or glottis is attacked by the process.

As far as the treatment is concerned, it can only be said that whatever appears to act causatively in producing the eruption must receive proper attention, and, in addition, every possible source of reflex irritation must be removed. There are no special remedies indicated, none which seem to act directly upon the angioneurotic disturbance in the skin, but those from which benefit may be expected are the same as are required for the removal of any systemic derangement which may exist uncomplicated by attacks of circumscribed œdema.

Case II. *Multiple Syphilitic Initial Lesions.*—Benjamin A— , aged twenty-three, married, consulted me at the Demilt Dispensary, on February 8th, 1890, for a sore on the penis. He had had connection with a prostitute on February 1st, and five days later had noticed the lesion situated on the prepuce, just behind the corona. It was a typical chancroid, and a couple of days after I saw him a new one appeared near the first one, probably from autoinoculation, as he was careless as to cleanliness. These lesions healed under iodoform, and were not accompanied nor followed by any glandular enlargement.

The patient was seen again on April 15th, presenting on that date a patch of herpes simplex about midway on the right side of the penis. It healed up under bismuth subnit. in three days. He was seen again on May 6th, and gave the following history: On April 22d he had noticed a hard papule on the site of the former herpetic patch. The lesion had become excoriated in a few days, and subsequently ulcerated. On the 26th he observed another and similar papule on the dorsum, near the root of the penis, and on the next day still another, on the left side of the penis, nearly opposite the first one. On the 30th a papule appeared on the prepuce, near the frænum. These dates are probably only approximately correct, being the statement of the patient alone, and consequently they cannot be taken too strictly. When I examined him the first and second chancres had become deep, excavated ulcers, with precipitous edges, elevated borders, and bases of cartilaginous hardness, and upon them were thin, greenish crusts. The third lesion was a papular elevation seated on a hardened, sclerosed base, and it was covered by a thin, fissured, yellowish crust, beneath which was an eroded, but not ulcerated, base. The sore near the frænum was flat and dense, but not eroded. The inguinal glands on both sides had begun to enlarge indolently, were quite perceptible to the touch, and slightly painful.

During the following week the lesions increased in size, the first one becoming as large as a two-cent piece, the others varying from a dime to a three-cent piece, and showed no tendency to heal. Under an aristol. (twelve per cent.) ungt., applied in the second week, they did gradually improve, ceased enlarging, and progressed toward cicatrization, though this was not completed until some weeks later and after he had been placed on specific treatment. During the time that intervened between the first visit and May 22d, polyadenitis ensued, the cervical, cubital, anterior and posterior auricular, and other glands becoming indolently enlarged. On the latter date he reported general malaise, feverishness, nocturnal headache, etc., and the first macules were found on the lateral portions of the trunk. By June 3d the eruption had come out profusely over the trunk and extremities.

Since that date the patient has been kept under treatment, but in a more or less irregular manner. Under inunctions the macular eruption disappeared, and, as mentioned, the sores on penis healed; but in August he returned with a papular syphilide on the tongue and lips and ad anum, severe alopecia, and cephalalgia. More lately a grouped small papular eruption has appeared on the body and extremities, and an ulcerating lesion in the mouth on the inside of the cheek.

The interest in this otherwise typical case of syphilis is due to the multiplicity of the initial lesions. The belief generally entertained is that the initial lesions of the disease are single, as distinguished from chancroids, which are usually multiple.

Those writers, however, who have had large clinical experience, claim that multiple chancres are not of such very infrequent occurrence. Mauriac, for instance, states that they are as often multiple as simple, and that he has seen as many as fourteen to sixteen on the same individual. Whether other observers have had the same experience or not, the fact, however, that the primary sores of syphilis may be more than one in number is of considerable importance. Oftentimes the prognosis given to an individual will be much more guarded, and he be not assured that the sores contracted from a suspicious connection are not syphilis, because multiple, when it is borne in mind that there may be not one alone, but several initial lesions ushering in that disease, and the physician will also be saved from some awkward moments if, after having quieted the patient by telling him his trouble is only a local one, he is, a few weeks later, confronted by a macular eruption and other symptoms of a general infection. Perhaps the best criterion by which to judge a sore is the time which has elapsed between its appearance and the suspicious connection. The period of incubation of the local disease—chancroid—is usually from three to five days, that of the syphilitic chancre from two to three weeks.

Still this latter has been known to appear in eight to ten days after infection, and when, in addition, it so often happens that patients state that they do not remember the last time they had connection, or they have had repeatedly relations with women up to the time of the appearance of the sores on the penis or elsewhere, it is evident that in a doubtful case any opinion expressed should be a conservative one. Another misleading circumstance is that the poison of both chancroids and of syphilis may have been inoculated at the same time and at the same point, possibly several of the former appearing in a few days, the latter only perhaps some weeks later and after the others have healed entirely. As long as such elements of error in diagnosis and prognosis exist,

it is certainly wiser to wait in such cases for further symptoms before committing one's self absolutely. If the sores are syphilitic, the diagnosis is soon made apparent by the indolent enlargement of the lymphatic glands in proximity to them, followed by gradual and general adenitis, by the early eruptions, etc., factors absent and not appearing if the contrary is the case. A case in my private practice in 1889 illustrated very well this point of multiplicity of syphilitic primary lesions and the want of a history of the infection. The patient, a man of education and intelligence, presented himself with eight distinct small scleroses on the glans penis and prepuce. There was practically no history, as he had had repeated connections with various women up to a week previously. He had first noticed the sores the day after the last connection, and regarding them as chancroids had been treating them with lotio nigra, as he had done at previous times, when he had had such sores. He was quite conversant with syphilis, having read a good deal about it and also acquired information from physicians concerning it, and absolutely scouted and laughed at the idea that the sores could be specific ones, for the sole reason that *they were multiple*. A week later, however, indolent enlargement of the glands in both inguinal regions began, and at the end of four to five weeks the existence of general adenitis, the usual initiatory symptoms of the disease, and a profuse macular eruption, convinced him that the original diagnosis had been a correct one.

As far as the case reported in this article is concerned, it presented an interesting feature in addition to the multiplicity of the initial sores, in that these latter did not appear simultaneously but at intervals of a few days. Mauriac states that as a rule they appear at the same time, but occasionally they may appear successively, and he cites a case of his own in which the interval between two syphilitic initial lesions was seven days. In the case of Benjamin A—— , his own statement and observation were the only data by which the question could be judged, and, in consequence, the exact interval of time between the appearance of each chancre must be taken as only approximately correct. Inaccuracy in the statements obtained from patients is usually the case, so that it would be best in this instance to conclude that there was a certain interval of time between the first and fourth chancre, without, however, definitely specifying how long it was. In the other patient referred to here, in all probability the chancres appeared simultaneously, as they were all present when seen by him; and in still a third case, seen by me in consultation with Dr. R. B. Kimball, in 1887, and in which there were three chancres, the same simultaneous outbreak had occurred.

The sores which were situated on the penis of Benjamin A—— could not be considered as any other form of lesion than as syphilitic chancres. They presented markedly the symptoms characteristic of these lesions, and the subsequent glandular development, etc., as well as the macular eruption later, substantiated that fact. Their entire involution did not occur until after the patient had been put upon specific treatment, and only on the sites of the first and second, those which had ulcerated, did any scars remain after they were healed. These facts are mentioned again, owing to the possibility of the lesions which he had had in February being considered as the infecting ones. They were, however, typical local, non-infecting sores, and were not followed by glandular implication or any other symptoms. Three and a half months' duration of the secondary period of incubation, though not impossible, is yet a very unusual and rare occurrence, but an interval of time of a little more than three months between the appearance of the primary lesions and glandular enlargement is out of the question.

Case III. *Lymphangioma Circumscriptum.*—The patient, a boy, aged twelve, was brought to my office in August of last year. He was well grown and in normal physical health. The father, who accompanied him, stated that the primary evidence of the disease was noticed on the first phalanx of the great toe shortly after birth. At the age of six, further lesions developed about the middle of the leg, and since then new ones have appeared all the way up to the middle third of the thigh. They have not remained unchanged from the time of their first appearance, but have undergone involution and evolution. The boy has been under treatment almost all the time, has received internal remedies and local applications of all kinds and sorts, and lately destruction of the patches by means of the actual cautery has been attempted.

On examining the boy, it was immediately noticed that the right lower extremity, the seat of the lesions, was smaller in circumference than the left one, and it was said to be weak and not of as much service as the latter. It was also observed that the veins of the right leg and thigh, especially those on their extensor surfaces, were markedly varicose, as were also the circumflex iliac, the pubic, and the epigastric veins. Those on the left side did not show any abnormal changes. It could not be definitely ascertained how long this varicose enlargement of the veins had existed. When the boy was lying down, the symptoms were not very marked, but as soon as he stood up, the veins became large and prominent. There was no glandular enlargement below or about Poupart's ligament, and nothing could be made out, by palpation in the right iliac region, which could suggest obstruction to the circulation as the cause of the varicose condition of the veins on that side.

The cutaneous lesions were arranged quite regularly in the course and over the varicose vessels. For instance, there were a number of groups of individual lesions distributed linearly over one large vein, which, beginning at the middle and outer side of the leg, ran upward to the thigh in its course, curving around the external aspect of the knee. Similar accordance in situation between the groups and the veins was seen also to be almost the rule in this case, though some of the former occurred independently of the latter. The lesions occurred in groups for the most part, the individual ones being discrete, and coalescence of two or more did not seem to take place during their existence. The clusters consisted of a few, fifteen to thirty or more, separate, deep-seated, vesicular elevations, the size of an ordinary pinhead. There was no halo or zone of redness around those which had not been injured or irritated, but each lesion seemed to be seated upon normal skin. A few teleangiectatic vessels were seen coursing around the groups. The contents of these vesicles were clear and slightly yellowish, but if opened, the fluid which escaped quickly became tinged with blood. When a group had been subjected to rubbing or injury of some kind, evidences of inflammatory reaction developed about it, and the contents of the individual lesions became slightly mixed with blood or entirely replaced by the latter. No crusts were seen and nothing suggestive of them.

In addition to these superficial manifestations, there were found on the first phalanx of the great toe, where the disease had begun, and also alongside of the tendon of the semitendinosus muscle, a bunch of tortuous vessels about as large as a walnut, situated in the subcutaneous tissue, and being in all probability cavernous lymphangiomata. A number of scars on the leg attested to the use of the cautery in the treatment of the case, and around the margins of these new vesicular lesions had begun to appear. Unfortunately, permission to excise a lesion could not be obtained.

This case of rare cutaneous disease has been judged to be a representative of the lymphangioma circumscriptum, as described by Dr. Malcolm Morris,[1] owing to its strict symptomatic agreement with the example so superbly depicted by him, and also with the few others recorded in literature. Crocker treats of it under the name of lymphangiectodes, and states that all the cases he knows of began in early childhood, and occurred more

[1] International Atlas of Rare Skin Diseases, No. 1, 1889.

often among males than among females. A very thorough review of the subject has also lately been made by Finch, Noyes, and Lörok. From the histological study of the lesions they arrived at the conclusion that the nature of the process consisted in a proliferation of the angioblastema, in a new-growth of lymphatic vessels, and to a certain extent of blood vessels, and their transformation into cavities and broad channels. They believe that these cases represent varicose capillary lymphangiomata and hæmato-lymphangiomata.

Lymphangioma circumscriptum has been seen complicated with other diseases. Tilbury Fox's case had also a venous nævus, and one of Köbner was associated with cavernous angioma, lymphangioma, and neurofibroma, so that in my own case the presence of the varicose veins and deep-seated lymphangiomata are not exceptional complications. The existence of the varicose veins in so young a subject is, however, most unusual and difficult of explanation. Neither œdema of the foot or leg existed, indicative of venous obstruction of a decided character, nor could anything be made out at Poupart's ligament, or in the iliac fossa, suggesting such obstruction. On the contrary, the affected extremity was noticeably smaller than the left one; there were no enlarged glands, and in fact, nothing that could be regarded as mechanically inducing the venous dilatation. It may be that there had been at some time a chronic progressive phlebitis resulting in the varicose condition of the veins, or it might be that obstruction to the free passage of the blood was due to the external iliac vein being congenitally too small in calibre. Both of these are possibilities, but there was, however, nothing demonstrating the former, and the patient being still alive, proof of the latter could not be obtained. The arrangement of the groups of lesions over the varicose veins likewise suggests some connection or relationship between them, but in the absence of microscopical examination I am, however, not in a position to draw any conclusions in regard to the possible interdependence or relation of the two phenomena.

As far as the treatment of lymphangioma circumscriptum is concerned, little can be said. Some of the lesions disappear spontaneously, but return later. Destruction by means of caustics has been practised, but lesions have returned near the cicatrix. In my case, new vesicular elevations were seen around and about the scars produced before I saw him by the use of the Paquelin cautery. A rubber bandage had also been worn for a long time without any benefit to the boy. I tried electrolysis. It was followed by disappearance of a number of lesions besides the ones which had been pricked by the needle. Whether the result was a permanent one or not I cannot say, as, owing to the doubtful prognosis given, the patient remained under treatment only a short time.

Case IV. *Dermatitis Gangrænosa Infantum.*—Hannah J——, aged nineteen months, was seen by me March 6, 1889. She was anæmic and also suffered from a stomatitis aphthosa. The movements from the bowels had been loose, offensive, and greenish before the eruption began, but had become natural again. The cutaneous lesions had first appeared on the vulva one week before I saw the patient, and they had since then cropped out on the inner surfaces of the thighs, on the mons veneris and buttocks. On these portions were lesions in all stages of development. The primary ones were vesicles the size of a pea, surrounded by a dusky-red areola. In their course they increased rapidly in size, their contents became purulent, umbilication in their centres ensued, and then formation of a crust surrounded by an inflammatory areola. Further enlargement of the lesion continued, and in the largest ones—fully an inch in diameter—the crust was depressed and surrounded by an elevated and indurated deep-red border. On removing the crust, which was quite adherent, an extensive loss of tissue was found, the ulceration extending through the entire cutis to the subcutaneous connective tissue. In some the crusts rested upon a grayish mass of necrotic tissue saturated with an ichorous thin fluid, while in others the tissue seemed to have melted away and to be replaced by quite thick, purulent matter. The patient was given the iodide of iron and cod-liver oil, a weak bichloride of mercury mouth wash, and locally, an ointment of ichthyol (five per cent.) was to be applied after the crusts had been removed. On March 20th, all the lesions were completely healed, only scars remaining where the ulcerations had been.

The quite rare disease of the skin, of which this case is an example, has been described under various names. Varicella gangrænosa (Hutchinson), ecthyma infantile gangréneux (Pineau), pemphigus gangrænosus (Stokes), etc., besides the designation given by Crocker and used by me. It would seem also to agree quite closely with the ecthyma infantile or térébrant of the French. The disease develops secondarily to varicella, or vaccinia, or after measles, etc., and also spontaneously, and occurs in infants and young children. There may be severe constitutional symptoms accompanying it, fever even as high as 104° F., diarrhœa, albuminuria, etc., or there may be only slight systemic disturbances. Mild and protracted cases are met with, and also fatal ones. When the process appears after varicella, it usually begins on the head and upper part of the body (Crocker), but under other circumstances on the buttocks and lower half of the patient. Bacteriological investigation has demonstrated the presence of the streptococcus pyogenes as well as of others. The condition of the patient undoubtedly has also much to do with the appearance of the process.

In the case reported by me, as well as in two others which I have had and which were precisely similar, there were antecedent to the appearance of the lesions neither varicella nor vaccinia, nor any other eruptive disease, but the process originated spontaneously. All three cases occurred in female infants who were anæmic and run down, who had had intestinal troubles and diarrhœa preceding the appearance of the eruption. In all three the lesions were situated on the buttocks and thighs, and on portions of the body covered by the soiled napkins, and were in a class of patients with whom attention to cleanliness is not a virtue. This limitation of the process suggests very strongly that the source of the infection should be sought in the diarrhœal discharges preceding the appearance of the eruption, but yet it cannot be stated as a fact, for the reasons that the presence of the pathogenic cause in the movements from the bowels and its existence in the lesions was not determined, nor was it demonstrated that these latter were the effect of the former. Consequently the possibility of the two conditions being interrelated is mentioned only as a suggestive explanation of the origin of the disease in these cases. It does not seem as though this form of cutaneous disease could be confounded with any other, though possibly syphilis would be thought of by those unfamiliar with this latter. But even a moderate degree of observation and care ought to prevent such an error being made. Still the case reported here had been diagnosed as syphilis before it came to me, and had been treated with iodide of potash internally. The rapid course of a lesion and its various metamorphoses from a bullous to one filled with pus, then drying into a scab in the centre, underneath which deep ulceration and gangrenous destruction of tissue occur, form, however, a group of cutaneous symptoms which could only by carelessness be ascribed to syphilis.

The treatment of this disease of the skin should be both local and general. The latter must naturally be a symptomatic one and in accordance with the indications existing. That is, proper food, tonics, etc., should be given if necessary, the alimentary canal put into proper healthy condition, the child be given stimulants, sedatives, etc., according as necessity arises for their use. Locally, strict cleanliness must be enjoined and every means taken to obtain it; the lesions themselves, as well as the skin around them, ought to be treated antiseptically. Iodoform, iodol, chlorinated soda, boric acid, have all been

recommended, but I found ichthyol to give the most rapid and best results. In my three cases, the skin of the portions of the body affected was thoroughly washed with a solution of $HgCl_2$ (1 to 5,000), and when dry, not the lesions alone, but the entire surface on which they were situated, was covered with the ichthyol ointment spread on strips of canton flannel. Over these oiled silk was laid and the whole kept in place by gauze bandages. It was sought by these means to protect the surface from the fecal discharges and the urine, and also to limit the possibility of auto-inoculation, and the result obtained was that no new lesions appeared after the first dressing, and that those already existing healed rapidly. The local treatment would appear to be the *sine qua non*, the internal one being only an adjuvant, and consequently the former should receive the more careful attention.

Case V. *Relapsing Desquamative Erythema.*—A. D——, aged twenty-nine, a solderer by trade, consulted me at my office, March 15, 1890, for a recurrent affection of the palms and soles. The first attack occurred in May, 1886, but at that time the entire body was universally affected. The cutaneous symptoms were preceded for several days by cephalalgia, and then by an intolerable itching of the chest and hands, which became diffusely reddened. Similar appearances developed rapidly in the form of patches on other portions of the body, the eruption became more diffuse and then confluent, so that the entire surface was of an intense red color, burning and itching unceasingly. The redness lasted three days, and on its disappearance the itching ceased and desquamation began. This took place in the form of flakes, squamæ and lamellæ of all sizes, and ran its course without any subjective sensations whatever. The second attack occurred also in May, 1887, and it, as well as all subsequent ones, were limited to the hands and feet. The third outbreak was in May, 1888, and again relapses in June of the same year. Freedom until February, 1890, when the eruptions returned, and still another attack in March, when he consulted me. All of these relapses had been preceded by severe headache for a few hours or as much as three days, costiveness, and the two occurring in 1890 had been ushered in by chills and febrile movement. He could not ascribe any cause for the outbreaks, as he was, with the exception of costiveness and some headaches, strong, well, and healthy. Previous to the last attack he had, however, been much excited. The symptoms, as far as the skin was concerned, were always the same. There would be an intense burning and itching sensation of the entire hands and feet, lasting for a few hours and followed by a bright redness. The redness and itching would remain for about three days, and then the color fading, desquamation would begin and be completed in a week or more. There were never any moist places or vesicular or other lesions, nor were the nails affected.

When seen by me in March, the hands and feet had already passed through the stage of redness, and that of exfoliation was present. There was not any true desquamation, but the epidermis was exfoliated in one piece from the entire affected surfaces. I removed as a whole the epidermis covering the palms and palmar surfaces of the fingers from the wrists to the tips of the latter, and if care had been taken the cuticle of the whole hand could have been stripped off like a glove. Underneath this exfoliated epidermis the skin was covered by a smooth and thin horny layer, one, however, completely normal in character. The patient, who lived quite a distance from the city, in Connecticut, informed me later by letter that his constipation was relieved, that he felt well, but that on March 21st another attack had set in. It had been precisely similar to the former ones, except that it had not been preceded by headaches, chills or fever, and had been limited to the hands alone. Absolutely no inducing or determining cause for the attack could be suggested.

Though this patient was not seen at the time the attack began, but only some days later, yet from the general description he gave of the symptoms, the course followed by the disease, and from the existing exfoliation of the epidermis, it was possible to recognize the affection as an example of relapsing scarlatiniform erythema. Most peculiar was it, however, that though the first attack was universal, yet the subsequent ones were limited to the hands and feet alone, a peculiarity which I can find manifested by only one other case recorded, as far as I have been able to discover. This one was reported in 1878 by Dr. Bulkley,[1] and it agreed closely with the instance recorded here by myself, except that the duration of the disease had been longer, and that the number of outbreaks had been greater.

Scarlatiniform erythema has been observed to make its appearance under the influence of divers demonstrable causes, as well as idiopathically and without traceable reason, to be limited to one attack, or to relapse any number of times. The conditions under which it may arise have been mentioned by me in an article which appeared in January, 1889,[2] and need not be enumerated here again. Under the action of some one cause or another or idiopathically, to repeat, the same eruption may appear, but yet the same agent is not necessary to always reproduce the cutaneous symptoms every time in the same individual, but they may arise under the influence of entirely distinct causes. The eruption may at times be more limited than at others, or be more diffuse and general, but yet in each attack the symptoms are substantially the same, no matter what may be the etiological or determining factor of the outbreak. In the case, for instance, which I reported (*loc. cit.*) in January, 1890, the symptoms and course were the same as in the one recorded here, though the former was much more diffuse and general; yet in the one the etiological cause was the abnormal condition and position respectively of the uterus and ovary, while in the other it appeared to be due to the influence of the seasons of the year, inasmuch as the first three attacks occurred in the month of May of the successive years, 1886, 1887 and 1888. In 1890 the relapse took place in February, and twice recurred in March, but during the entire time from the first attack to the last one, the patient was free from it except in the months named. The result of observation of these cases of relapsing erythema is that they have a tendency to recur more and more frequently in proportion to the duration of the disease, and to come at shorter intervals. It is possible, therefore, that in the end the annual type, or the recurrences at certain seasons of the year, may gradually become obscured. The course which this case appears to be following suggests that possibility, and it would not surprise me to see him return with another attack at a near date.

The recognition of scarlatiniform erythema, when it occurs in connection with septic processes, or with other systemic diseases, or from the administration of certain drugs, or from some one or other definite etiological cause, or even when idiopathic, should not be difficult. More often in the latter form the history of precedent attacks will be obtained, but when it is a first outbreak the differentiation between it and some mild cases of true scarlatina may offer some difficulty. When of limited extent, of course, it would be readily recognized, but if diffuse over the whole surface and with throat symptoms, possibility of confusion would certainly exist. Still, in scarlet fever there are marked general systemic symptoms preceding the eruption, the pyrexia is more intense and continued, there is decided implication of the throat, the strawberry tongue, and especially renal symptoms. The erythema may also be confused with other cutaneous diseases, but the scope of this article renders it unnecessary to refer to all of them.

The prognosis and treatment in the cases of scarlatiniform erythema will vary according to the etiological cause

[1] Archives of Dermatology, vol. iv., 1878.
[2] N. Y. Medical Journal, January 11, 1890.

in any given case. If merely the effect of some drug toward which the patient has an idiosyncrasy, cessation of its administration will often be followed by subsidence and disappearance of the eruption, until the drug is again ingested. Still cases have occurred in which the process has continued by a succession of relapses over a long period of time after the administration of the drug has been stopped, and without the latter having been taken again. If due to septic or pyæmic processes, or in the puerperal state, the appearance of the eruption usually presages a fatal result. In other words, the prognosis will vary in every case in accordance with the basic and inducing cause. In the cases which appear to be idiopathic in origin, the prognosis will certainly be a doubtful one, as it is impossible to foretell a relapse or to specify the number of these which may occur. Tilbury Fox mentions, for instance, a case in which there had been over a hundred recurrences of the eruption, and yet there was no certainty of when the next attack would appear. The treatment again will be guided by the same factors as the prognosis, and be directed against any possible cause which may be suspected or suggestive of playing a part in producing the eruption. It does not seem possible to cut an attack short, nor in many of the cases to prescribe any line of treatment which will prevent relapses; certainly not in those apparently developing without any cause, or brought about by circumstances or conditions which are not removable. When the eruption is present in these instances, symptomatic treatment is about all that can be made use of.

Case VI. *Chloasma in a Hypospadiac.*—Patient, aged thirty-five, came to my office in July of last year, in regard to a pigmentation which had appeared upon his face repeatedly and remained there steadily, except during the winter months. The patches were light or dark brown, symmetrical on the cheeks, on both wrists, and on the neck, and also in the middle of the forehead. The pigmentation began in front of the ears on the face and extended to about the middle of the cheeks on both sides, curving along the infra-orbital margin. Thence it descended in an irregular manner to the angles of the mouth, around which it passed to the chin, which it covered uniformly, leaving free, however, a space about one-third of an inch broad below the vermilion border of the lower lip. This patch was continuous with the pigmentation situated on the neck. The entire middle portion of the face was free. The patches on the wrists extended almost around them, and were so situated that they were always covered by the cuffs and sleeves of the coat. The localization, limitation, and situation of these patches excluded the possibility of their being simply sunburn, but allowed the diagnosis of chloasma to be made.

In the course of the examination of the lesions, the patient suggested that his heart be auscultated, as he suffered from palpitation. After taking off his shirt, it was noticed that, for a male, the mammary glands seemed to be unusually developed, in fact were as large as a woman's usually are, and on continuing the examination, the patient was found to present the following anomalies in his formation: It had already been observed that he was beardless, that the mammæ were large and gave the impression of being glandular tissue, not fat alone; but it was now seen that the hips were very broad, the thighs inclined inward, the legs slightly outward as in a woman. The mons veneris was very prominent and covered with hair, but a penis and scrotum was not present. In their place there was an opening situated between two redundant folds of skin, and in each of which a small testis could be felt. When these folds were well separated, a perfectly shaped glans penis of good size was seen some distance inside, occupying, relatively speaking, about the situation of the clitoris in the female. The patient stated that even when erected it never protruded externally. There was no meatus urinarius seen, but below the glans a canal several inches long led inward and upward. This passage was quite large and distensible, and at its upper end there could be felt a constricted firm portion, which was judged to be the sphincter and neck of the bladder. The patient stated that he had always urinated in a sitting posture, and that he could feel the urine running down this canal. He confessed to masturbation and said that when the orgasm occurred, there was an ejaculation of semen which dribbled down the passage. Labia minora, meatus urinarius, etc., as are found in women, there were no traces of. There had never been any suggestion of menstruation, nor any evidence obtained that even a rudimentary uterus or ovaries existed. In fact, the case was one of hypospadia in a marked degree. The patient stated that being excessively endowed with animal passions, his desire was oftentimes so intense as to cause him pain, and he obtained relief from masturbation; but that he had not infrequently dressed up as a woman and men had had sexual intercourse with him, under the impression that he was of the female sex. Under those circumstances, he stated that the pleasurable sensations he experienced were intense. Possibly he was telling the truth, and to judge by the canal and its size, as well as by the general conformation of the patient, the error of taking him for a woman would not be impossible, if, as he said, he was always careful to "entertain company" in a dimly-lighted room.

7 West Thirty-first Street.

THE TREATMENT OF AN ACUTE ATTACK OF HAY FEVER.

By ISIDOR GLUCK, M.D.,

Oculist and Aurist to the Academy of the Sacred Heart and Brownell Hall, Omaha, Neb.

Most of the modern writers on the subject of hay fever are inclined toward the view that the disease is a local affection of the mucous membrane and underlying tissue of the nose; that subjects thus affected are of neurotic temperament, and that for the production of an attack of hay fever an external irritation is essential.

Thus Daly, of Pittsburg, 1882, attributes the annually recurring attacks "to local chronic disease, upon which the exciting cause acts with effect."

Rose, of Rochester, N. Y., 1883, expresses the same view, holding that "hyperæsthesia is associated with, or occasioned by, a diseased condition, either latent or active, of the naso-pharyngeal mucous membrane."

Harrison Allen, of Philadelphia, 1884, in an article on the treatment of hay fever says, that the disease is caused by a permanent or temporary obstruction of one or both chambers.

Later in the same year, J. N. Mackenzie, of Baltimore, suggesting the term "coryza-vaso-motoria periodica," on the ground of the decided tendency to periodic recurrence, holds that for the production of a paroxysm a certain excitability of the nasal cavernous tissue is necessary; that there exists in the nose a well defined sensitive area, whose stimulation through a local pathological process, or through an ab-extra irritation is capable of producing an excitation, which finds its expression in a reflex act, a series of reflected phenomena.

Sajous, in his "Lectures on the Diseases of the Nose and Throat," 1886, page 180, says, that in hay-fever patients an hyperæsthetic state of the mucous membrane, either latent or due to local disease, is always present, and the condition of the mucous membrane is an essential factor in the reproduction of an attack.

Bosworth, in the *New York Medical Journal*, May 1st of the same year, argued that the prominent predisposing cause of all cases of hay fever was an obstructive lesion in the nose, and that for the production of the disease three conditions were essential: 1, An obstructive lesion of the nose; 2, neurotic habit; 3, the impact of pollen upon the nasal mucous membrane.

Andrew Clark, in 1887, published a paper on the same subject, pursuing much the same line of argument as Bosworth, giving, as most of the modern writers, as require-

ments for the production of the disease. three conditions : 1, Neurotic habit; 2, an intra-nasal pathological condition; 3, an external exciting cause.

After reviewing the different statements and arguments in regard to the cause and production of hay fever, and also giving some consideration to my own observations, I venture to state that there are only two conditions necessary for the production of hay fever : 1, A characteristic intra-nasal pathological condition ; 2, an external cause.

My reason for omitting a third condition, the neurotic habit, is, that from my own observation, and from cases on record, I am inclined to the belief that the neurotic habit in most all cases is a product of the disease, and its manifestations in direct proportion to the severity of the attack and length of time the patient has been subjected to it.

That hay fever is pre-eminently a local disease can also be claimed by the fact that therapeutics applied for the improvement of the constitution and nervous system have failed to influence the force and character of the disease, whereas local treatment to the affected parts produces the desired effect.

Since 1888 I have employed a solution of sulphate of atropia locally for the treatment of acute attacks of hay fever, and from the thirteen cases I had under treatment, and from the records I present you, it becomes evident than in most cases an acute attack" can be aborted in from two to five days. One rarely encounters a case in which the drug fails to act as expected. It might occur in an individual of extraordinary susceptibility to atropia. In such cases tolerance is very easily established, but at the cost of the therapeutical effect, which is reduced, if not entirely lost.

Sulphate of atropia, when locally applied to the nasal mucous membrane, acts as a depressant, as a local sedative upon the end fibres of the sensory nerves. It also affects the vaso-motor and afferent nerves. It causes contraction of the arterioles, relieves and prevents reflex phenomena such as paroxysmal sneezing. It depresses the activity of the glandular elements and thus diminishes the secretion of an exudate, which, being of an irritating character, causes the violent paroxysmal sneezing and other reflex phenomena often found associated with hay fever.

Absorption from the mucous membrane of the nose being very rapid, the first physiological effect from a local application in children and young adults will manifest itself in from five to seven minutes, and will disappear in from thirty to forty minutes. In adults the effect lasts much longer, drowsiness may last for hours. The mode of treatment employed in the cases recorded was as follows :

Realizing that any irritation will aggravate an attack, I avoided all sprays. I dipped a piece of absorbent cotton, attached to a cotton holder, in a solution of cocaine-phenol, formula of which I published in the MEDICAL RECORD, New York, June 20, 1890, and applied the solution to the engorged parts. After some contraction and moderate amount of anæsthesia had been produced I applied, in the same manner, a one per cent. solution of sulphate of atropia. Internally I prescribed small doses of aconitine every hour or two, according to the severity of the case. Next day patients were invariably better. I continued same treatment until recovery. In addition to the local treatment, I am in the habit of prescribing a tonic containing phosphate of iron and quinine.

Cocaine-phenol is especially advantageous in the treatment of hay fever. But a cocaine solution applied without the phenol will cause irritation and sneezing, which lasts until the first effect of the anæsthesia sets in ; whereas the phenol, the very moment it is applied, produces anæsthesia to a certain degree, sufficient to counteract the irritation produced by the application.

I give the history of the patients I have had under treatment, in a condensed form, and wish to remark that where I have omitted to state whether any members of the same families have had the same affection, it is to be assumed that there were none thus affected. Most of the patients complain of a peculiar tickling sensation of the palate and catarrhal conjunctivitis. Every patient has had the mumps.

CASE I. (April 10, 1888.)—Mrs. D——, aged fifty, has been subject to hay fever for sixteen years. Attack comes about August 20th. She came to consult me on account of deafness; R. ear, 1½ inch ; L. ear, 3 inches, with watch test. I cauterized hypertrophy of the nose in order to restore hearing and prevent recurrence of hay fever. Discharged her, with hearing in R. ear 12 inches, L. ear 14 inches. Remained free from hay fever the entire season.

August 24, 1889.—Not the slightest indication of an attack ; having passed the usual day of recurrence she left the city for a few days, returning September 3d, stating that as soon as she entered the cars and inhaled the smoke she had an attack of hay fever and was still suffering, although not very much. I applied cocaine and phenol, and then atropia, as described above, entirely relieving her. She has been well since.

October 20, 1890.—No attack this year; had been exceptionally well, gained in flesh, and is very much improved in every respect.

CASE II. (June 9, 1888.)—Mr. D. J. C——, aged twenty-seven, presents the following history : Had hay fever when a baby, before he was able to walk, and has been attacked every year since. His paroxysms generally commence on May 24th. His brother and sister are also subject to hay fever. Their attacks come on in August. Examined patient and diagnosed membranous rhinitis. Treatment very much the same as for hay fever. Next day he brought me for inspection two large pieces of membrane he had blown from his nose a few hours after treatment. Continued treatment on the 10th, 11th, and 13th. Patient well. I suggested cauterization, but he would not consent to it.

September 1st.—Slight attack of hay fever. Treatment given. Left office very much relieved and has remained well since.

June 9, 1889.—Hay fever attack came on May 14th. Treatment 14th, 15th, 18th, 20th, and 24th. Well, and remained so until

June 5, 1890.—Awoke on that morning with all of the symptoms of hay fever. Treatment the 5th, 6th, 7th, and 9th. Well.

On the 22d of June exposed himself to the rain, became thoroughly wet, and had, on the next day, all of the manifestations of hay fever. Treatment on the 23d, 26th, and 27th. Patient cured and remained so during the entire season.

CASE III. (August 1, 1888.)—Mr. M. H. R——, aged twenty-nine. Hay fever for five years. Attack comes on in July, no definite date. Treatment on the 1st, 2d, 3d, and 4th. Patient well. Saw him last in September, before his removal from the city. Have not heard from him since.

CASE IV. (August 23, 1888.)—Mr. O——, aged thirty-eight. Has had hay fever for twelve years. Comes on first part of August. Only the left nostril is affected. Treatment on the 23d and 24th. Patient well. I suggested cauterization for possible permanent relief. On the 27th I commenced cauterization.

August, 1889.—Met him, and he passingly remarked that he thought he had a slight touch of the old trouble, but not sufficient to apply for treatment. Have not seen him since.

CASE V. (August 27, 1888.)—Master T——, aged twelve. Has had very bad colds for the last two years, causing paroxysms of sneezing. Eyes injected. Complains of tickling of the roof of the mouth. He is nervous and very restless. His hearing is impaired. Diagnosed hay fever. Treatment on the 27th, 28th, and 29th. All symptoms before described disappeared. Impairment of hearing remained. I advised cauterization, which I commenced October 2d. Hearing has not improved, having cauterized four times in six weeks.

Case VI. (September 4, 1888.)—Miss M——, aged twenty two. Has had hay fever for ten years, bronchitis, and paroxysmal cough. Lung trouble in the family. Mother and one sister died of phthisis. Attack comes on sometimes in June. July, or August. Treatment on the 4th, 5th, 6th, and 7th. Treatment for the cough, one-sixth grain of codeine every fifteen minutes until relieved. Generally six to eight doses arrest the cough. I advised cauterization, to which she consented.

1889.—Spent summer in Europe.

1890.—Had no attack.

Case VII. (September 25, 1888.)—Mr. H——, aged twenty-seven. Has had hay fever since 1883. The attack comes on between the 15th and 25th of August: this year on the 1st of August. Treatment on the 25th, 26th, 27th, 28th, 29th, 30th, and 31st. Well. Patient is a newspaper reporter. During fair-week he was continually exposing himself to dust and heat. During the day, in consequence of the treatment, he has felt perfectly comfortable and had no paroxysms, but on awaking in the morning he was subject to violent sneezing. At the end of the week he changed his occupation, and he has continued well. He left city in January, and I have not heard from him since.

Case VIII. (September 27, 1888.)—Mr. C. G——, aged forty-four. Has been subject to attacks of hay fever for nine years. Treatment on the 27th, 28th, 29th, and 30th. Well. Saw him October 5th, before he had left the city. On his journey he had some slight attacks, which since his arrival in Chicago have not recurred. Was free from all attacks that season. Have not heard from him since.

Case IX. (August 7, 1889.)—Mr. L——, aged thirty-nine. Hay fever of ten years' standing. Attacks come on irregularly in June or July. The paroxysms vary in severity during season and during the day. After a hearty meal he is generally worse. Treatment on the 7th and 8th. Well. Saw him last on the 22d of August; he has been free from an attack since his last treatment on the 8th. Have not heard from him since.

Case X. (September 8, 1889.)—G. W——, aged forty-one. Hay-fever of four years' standing. Attack comes on during some seasons in August and during other seasons in September. Treatment on the 8th, 9th, 10th, and 11th. Well. Commenced cauterization on the 14th.

November, 1890.—Has had no attack this year, and none since his treatment on the 11th of September of last year.

Case XI. (June 5, 1889.)—Mrs. P——, aged thirty-four. Has had hay fever for four years. Treatment on the 5th, 7th, 10th, and 11th. I saw her on the 17th, and she stated that since the last day of treatment she had been well. She left the city for the East the 18th. Later she informed me that during her voyage she had very severe attacks, and that she attributed the severity of the same to the treatment. Have not seen her since.

Case XII. (August 26, 1889.)—Mrs. R——, aged twenty-eight. Hay fever of six years' standing; attacked generally in June. Her mother and mother's sister also have hay fever. The presence of fresh fruit will produce a paroxysm. Two years ago some one lighted a sulphur match in her presence, and the fumes gave her an attack of asthma. Since then she is also occasionally subject to asthma. She is very susceptible to quinine; five grains will bring on an attack of asthma. Treatment August 26th and 27th. Well. August 31st she had an attack of asthma. I prescribed sodium nitrite, gr. $\frac{1}{6}$, every fifteen minutes until relieved. Six doses have freed her from all symptoms. Later I cauterized hypertrophies in the nose, and she had no return of hay fever or asthma until

April 1, 1890, when she had taken for the relief of a cold fifteen grains of quinine, which produced the most severe attack of asthma I ever saw, potassium iod., gr. 20, completely relieved her.

November.—Had no attack of hay fever since August 7, 1889.

Case XIII. (August 15, 1890.)—Mrs. J. M. B——, aged thirty. Has had hay fever for fifteen years. Has generally two attacks in same year; one in spring, coming on with the first blossoms, and lasts for three or four weeks. Second attack comes on about August 16th. This year it came on August 1st.

The odor of perfume, also stale flowers, have produced attacks. She is very susceptible to morphine. She states that one-sixth of a grain will put her to sleep for twenty-four hours. Treatment the 15th. Hardly three minutes had elapsed after the application of atropia when her face became intensely red. About ten minutes later she complained of intense dryness of throat. Next day she informed me that she was much improved, and that she had only one very slight paroxysm. Treatment the 16th. The 17th I did not see her. The 18th she applied for treatment again, stating that, having felt perfectly well, she went the previous morning to a picnic, remained out doors all day without the slighest sign of an attack. On awaking this morning she had a severe attack. I applied the atropia without producing flushing of the face. She received treatment for six days longer, but no matter how freely I applied the atropia I could produce no satisfactory result. The patient having been exceedingly susceptible to the drug, has acquired tolerance at the expense of the therapeutical effect, which was slight. Such cases are, fortunately, very rare.

One of the peculiarities of this affection is, as universally claimed, that the attack comes on almost always on the same day of each year; and some patients are even positive of the hour of its regular appearance. From the thirteen cases cited there is, with the exception of one (Case II.), none who could state the day with certainty. As to Case II., I met him this year shortly before his usual attack was to come on, and made a remark to that effect. "Oh! no," he answered, "the Queen's birthday is the day for my attacks." The Queen has her birthdays regularly on May 24th; but, as his record shows, he had not his attacks on those days. He always had them later, and at different times. This tends to show how unreliable such statements are. I do not deny that there are individuals who notice symptoms of the affection every year on the same day, but I am inclined to believe that mental influence and anticipation play a great rôle in the prompt appearance of such symptoms. The very same gentleman gives me cause for some other remarks, which I desire to make in this connection.

June 9, 1888, he consulted me in regard to his hay fever, from which he was, as he stated, that very day suffering. Examination revealed membranous rhinitis. Both affections are so similar in their manifestations that it requires a very careful examination in order to differentiate. When there is a membrane present the diagnosis is easy. In cases where no membrane has yet formed, cocaine will aid in the diagnosis. Here a cocaine solution applied to the engorged parts will produce anæsthesia, but not contraction. In hay fever it will produce both. This case shows that a patient might have hay fever for years, and during the approach of the season acquire membranous rhinitis, which will take the place of his annual attack.

It is likely that both affections are closely allied; more so as the treatment for both are the same, and the duration and effect of treatment the same. We apply atropia to check exudation, and we check the disease. It is likely that the glandular elements of the nose, by some irritating influence, secrete an exudate chemically different in quality from the exudate in hay fever, which, when coming in contact with air, will coagulate and form the membrane.

Whether any disease peculiar to childhood has any influence upon the production of hay fever, was suggested to my mind by the fact that all of the thirteen cases I had under treatment have had the mumps. But Case XIII. had hay fever two years before she had the mumps, and as she is very positive of this fact, a conclusion would not be warranted.

SUCCESSFUL EFFORT TO RESTORE BINOCULAR VISION BY A PARTIAL TENOTOMY OF THE SUPERIOR RECTUS.

By RICHARD H. DERBY, M.D.,
SURGEON NEW YORK EYE AND EAR INFIRMARY.

THE following cases are worthy of publication as illustrating the value of orthoptic treatment of the eyes, both before and after having recourse to surgical measures. In both of these cases the value of prismatic glasses was amply demonstrated before the tenotomy was made, and in both the restoration of comfortable binocular vision was secured by the operation.

Elinor H——, girl, aged twelve, came to me April 18, 1888. The mother gave the following account of the case: "From the time Elinor, as a baby, began really to look at any object, her head was always inclined to the right of the upright. Following our physician's advice we regarded it as a childish trick, and were always careful to place her toys, etc., to the left rather than the right side. This had no effect, and soon the child began raising the right brow and fixing the right eye into rather a strained look. This habit increased, and the distortion of countenance became very distressing. Her head began to give her a great deal of trouble, and looking back now I see that these symptoms increased as she began to read. She never complained of any trouble with her eyes, but I have seen that the child was gradually learning to hold her book nearer to her eyes, and that she saw less well objects at a distance. She became nervous, and at times she complained (with marked terror) of everything growing so large to her."

This was in substance the condition of the patient when she came under treatment. There was of the right eye a myopia of 2 D., of the left, of 1.25 D. The vision of each eye was more than .6. There was insufficiency of the interni of 10°, and of the left superior rectus of 8°. The patient was directed to wear the following glasses: Right eye, prism 8° (base up), and left eye, prism 10° (base in), and to wear this continuously. Of the effect of the glass the mother stated: "She lost after a few days the worn look, and while still a very nervous, irritable child, she gained decidedly in her physical endurance; she read without headache and slept well, more quietly than before using her glasses."

The mother was directed daily to test the eyes for diplopia, using a candle and a piece of red glass before one eye, and the child was made to use the stereoscope with Green's cards. A careful record was kept by the mother, and from her notes I take the following: "I have found the greatest departure from single vision to occur in the morning test. Any fatigue, excitement, or physical disturbance will produce double vision. The change of place in the lines of a book has ceased to trouble her, and she can sight a small air-gun now, which she never could before."

During the summer patient continued to wear with relief the prismatic glasses. On October 22d a tenotomy of the rectus externus of the left eye was made without a suture, and patient was given for the right eye a prism of 4° (base up), and for the left a prism of 4° (base down). On October 31st the glasses were changed for the following: Right eye, — 2.5 D.; left eye, — 1.25 D., combined with prism 4° (base down). This glass was worn habitually, and with it there was at no time diplopia.

December 31st a partial tenotomy of the superior rectus of the left eye, leaving a small bundle of the inner fibres intact, was made. Directly after the operation the left eye stood lower by 2° for candle held on horizontal plane at distance of 3 m.

January 2, 1889, the tests, both with red glass and with the stereoscope, show binocular single vision, and this without any concave or prismatic glass whatever. The ophthalmometer shows no corneal astigmatism. At the present time, December, 1890, patient gives no evidence of disturbance of the muscular equilibrium of the eyes.

The second case, M. S——, a man, aged thirty, came to me April 2, 1888. Two weeks before, while riding, he was struck by the flat of his horse's head in the left eye. For two days after the injury the eye was closed. After that there was double sight. When patient was seen there was a cicatrix fully an inch long running from the middle of the left eyebrow downward and outward, following the margin of the orbit. The eyes were emmetropic, and the vision of each was normal. There was crossed diplopia, and the image of the left eye stood below that of the right. The vertical diplopia increased as the eyes were directed downward. Above the horizontal meridian there was single vision. A prism of 12° (base in) before the right eye, and prism of 20° (base down) before the left, nearly corrects diplopia for objects held two to three metres away. Patient received the following glasses: Right eye, prism 10° (base in), and left eye, prism 20° (base down). These glasses patient wore for one week with complete relief. Patient was gradually given weaker and weaker prisms until, for daily use, he wore before the left eye a prism of 5° (base down), and before the right eye a plane glass.

In March, 1889, nearly a year after the injury, patient returned complaining of occasional diplopia and pain in his left eye. With a candle on the floor before patient (seated) the diplopia is corrected by (right eye) prism 5° (base in), and left eye, prism 4° (base down). Patient received for right eye, prism 4° (base at 35°), and the use of this relieved his ocular symptoms. With a view now to subsequent tenotomy of the left superior rectus patient received at intervals of three to four days a successively stronger prism to wear before the right eye, until, on May 21, 1889, he wore with comfort (right eye) prism 10° (base at 35°). May 22d, under cocaine, a partial tenotomy of the left superior rectus was made, leaving a small bundle of fibres uncut inward.

Directly after the operation there was lateral equilibrium and a difference in height of the images of less than 2°. The next day diplopia could be produced only at a point 35° above the horizon. Since the operation patient has not complained of asthenopic symptoms or of double vision.

Progress of Medical Science.

Ligature of the Saphena Vein in Cases of Varicose Veins.— Professor Trendelenburg advocates double ligature and division of the large saphena vein in the treatment of varicosity of the lower limb involving both the trunk and branches of this vessel (*The British Medical Journal*). In some remarks on the pathological anatomy of varicose veins it is pointed out that the most prominent and dilated portions of the affected vessel are found below, and not, as is generally supposed, above the valves. The walls of the vein, being weaker here than at other points, yield most readily to the pressure of the blood when the valves cease to act. According to Trendelenburg, most of the blood which fills the dilated trunk and branches of a varicose saphena vein is derived from above, and has descended from the iliac veins and the vena cava, and but a small portion of it comes from the capillaries of the foot and leg. When the subject of varicose vein exchanges the horizontal for the vertical position a large quantity of blood at once descends from the large veins of the abdomen into the dilated veins of the lower extremity. It is this free downward flow of blood along large and dilated vessels deprived of valves that causes the profuse and dangerous hemorrhage so frequently produced by a breach of the surface of the leg when in a condition of varicosity. The conclusion that the troubles and dangers of those suffering from varicose veins of the lower limb are due for the most part

to the fact that the varicose branches of the great saphena, in consequence of associated dilatation of the trunk of this vein, are no longer separated from the vena cava by valves, has led Trendelenburg to treat varicosity by permanently obstructing the saphenous trunk at one point, with the view of preventing the descent of blood from the abdomen, and thus relieving the veins of the leg and foot from the abnormal pressure. After obstruction of the flow of blood through the main trunk of the great saphena, the venous circulation will be maintained by communicating branches between the superficial and deep veins. Reference is made to a series of cases in which good results followed such treatment, which consists in exposure of the vein near the saphenous opening, in the application of two catgut ligatures, and in the division between these of the vessel. It is acknowledged that occlusion of the great saphena is by no means a novel plan of treatment in cases of varicosity of the lower extremity. It was practised by Paulus Ægineta, and advocated by Ambroise Paré, and at the end of the last century Sir Everard Home performed this operation in twelve cases with very unfavorable results.

Classification of Headaches.—In the *University Medical Magazine*, Dr. Dercum gives the following classification of headaches: I. Organic headaches. II. Non-organic or functional headaches; *A*, headache, with sympathetic nerve involvement—*migraine*; *B*, headaches from purely functional disturbance of nutrition; *a*, headache from anæmia; *b*, headache from hyperæmia; *C*, headaches from disturbances of nutrition from diathetic and toxic causes; *a*, diathetic headaches, lithæmic, rheumatic, diabetic, uræmic; *b*, toxic headaches, malarial, alcoholic, lead, tea and coffee headaches; *D*, headaches of reflex origin, eye headaches, nasal headaches, gastric headaches, cardiac and pulmonic headaches, uterine and ovarian headaches, bowel headaches; *E*, hysterical headaches; *F*, neurasthenic headaches; *G*, headaches associated with the various febrile disorders.

The Action of Prussic Acid in Pulmonary Tuberculosis.— Dr. Koritschoner reports his investigations on this subject. Introduced by the Italian physicians, Brera, Borda, Brugnatelli, and Rasori, prussic acid was employed at the beginning of the century in almost every disease. The most incredible effects were attributed to its healing action; even tubercular cavities were healed by its administration. Rapidly, however, its pan-therapeutic virtues shrank, until now its preparations are used for stomachic cramps and palpitation, and occasionally as a specific against tuberculosis of the lung. Koritschoner resolved to try its efficiency in pulmonary tuberculosis, giving inhalations of the acid in vapor form, made by the action of potassium cyanide and dilute sulphuric acid. Thirty patients with incipient pulmonary phthisis were placed in a chamber two hours every morning and afternoon for six weeks; into this room the fumes were driven, no other treatment being added. The conclusions reached were as follows: Chronic prussic acid poisoning was produced in seven patients; diminution of cough and liquefaction of sputa occurred in all; reduction of pulse and respiration rate occurred in every case; doubtful action on body weight; night-sweats and fever were observed; while there was absolutely no effect on the tubercular process in any way, which increased regularly and steadily throughout the treatment. Realizing the dangers of the treatment, Koritschoner wisely concludes that the results were too small to justify its use in such cases. He believes its reputation is due in phthisical conditions to its sedative action on the cough.—*Wiener Klinische Wochenschrift.*

Gangrene of a Tendon.—Dr. E. Corminas reports, in the *Revista de Ciencias Médicas* de Barcelona for April 10, 1891, a curious case of gangrene of a single tendon without participation of the surrounding tissues. The patient had caught the middle finger of his left hand in a door in such a way that the last phalanx was broken and the soft parts much lacerated. The broken end of the phalanx was removed, the edges of the wound trimmed and drawn together, and an antiseptic dressing applied. For a few days everything went well, but soon the finger began to swell and the swelling extended to the hand. On making an incision a large amount of pus was evacuated, but the swelling in the finger was not reduced. It was thought that possibly a portion of the bone was necrosed, but upon making an incision along the palmar surface of the finger at the level of the first phalanx, a gangrenous odor was perceived, and examination showed a necrosis of the superficial flexor tendon. In the course of four or five days the tendon sloughed away in pieces aggregating in length over an inch, showing that the gangrene had extended well into the palm of the hand. After this separation had occurred the swelling diminished and the wound healed without further accident.

Treatment of Soft Chancre by Grattage.—Dr. N. S. Sheshmintseff reports several cases, in *Russkaya Meditsina*, of March 24, 1891, of soft chancre in which good results were observed to follow scraping out the ulcer and the subsequent application of a powder containing tannic and boric acids, or of a solution of nitrate of silver, 10 grains to the ounce. He believes, as a result of these experiences, that grattage of soft chancres, local anæsthesia having been previously effected, gives better results, as regards the rapidity of the cure, than any other method hitherto employed. When this is done early enough it is almost certain, he holds, to prevent the formation of a bubo.

Paranoia Recurrens.—At the recent meeting of the Society of Russian Physicians in Moscow, Dr. B. S. Greidenberg reported seven cases of recurrent mania which he had observed in his service in the section for mental diseases of the Simferopol Charitable Institute within the last three or four years. The patients, upon their reception into the wards, presented all the typical symptoms of acute insanity, for the most part of maniacal character, and these symptoms continued for a few days or perhaps a week. Then very suddenly, much more rapidly than is usual in such cases, the patient's condition began to improve, and at the end of one or two, or at most three, days it had changed so much for the better that they were regarded as almost, if not entirely, well. Two of them, indeed, who lived near the city, were discharged from the institution as convalescent. At the end of from a few days to a week all these patients who had been looked upon as cured or convalescent began to show signs of their former malady, and in a very short space of time presented all the symptoms of acute mania. After another interval these symptoms began to abate and convalescence was again established, to be followed after the usual period by a return of the mental trouble. Each returning paroxysm was, however, a little less pronounced and of shorter duration than the one that had preceded it. The number of relapses varied in the different cases from two to five. The author emphasizes his belief that these intervals of apparent health were not the ordinary periods of temporary relief to the intensity of the symptoms often seen in the course of acute mania, but were actual remissions, during which there were no signs present of mental disease. Four of the patients were men, and three women. One only was over thirty years of age, the rest were about twenty-five years of age. All recovered perfectly, and several, from whom reports have been received from time to time, have remained well. The author regards this as a hitherto undescribed form of insanity, and gives to it the name of paranoia recurrens. In everyone of the cases observed by him the apparent cause was a violent mental shock. No hereditary predisposition existed in any case.—*Vratch*, March 14, 1891.

Camphoric Acid and Tellurate of Sodium as Antidrotics.—A French author speaks very highly of the use of these drugs in the treatment of profuse sweating from whatever cause. Employed in the nocturnal sweating of

phthisis, their action is prompt in arresting the secretions of the skin, in lessening very materially the purulent expectoration, and in improving the general well-being of the patient. The amount of camphoric acid to be given daily is set down as about thirty grains, and that of the sodium tellurate as rather less than a grain. The ingestion of the sodium salt imparts an alliaceous odor to the breath. No disagreeable results have been found to follow the use of these remedies. Schultze also reports very favorably on the use of camphoric acid in the sweating of phthisis. He advocates the administration of thirty grains every evening at bedtime. According to this author, the antidrotic effect of this drug is far superior to that of atropine, while it produces very much less constitutional disturbance. The effect continues from six to eight hours. Schultze also recommends the combination of fifteen grains of camphoric acid with the usual dose of antipyrine, to counteract the diaphoretic action of the latter drug.—*New York Medical Journal.*

The Scarlet-Fever Tongue.—The method followed by Dr. Newman was to sketch the tongue as soon as the diagnosis of scarlet fever was made, and after two or three days to compare its condition with the sketch already made. This was done in forty-eight cases, the chief symptoms of the disease being noted at the same time. The mucous membrane of the tongue passed through three stages: 1, Swelling and cloudiness of the epithelium; 2, desquamation; 3, regeneration of the lost epithelium. The first thing noted in the scarlet-fever tongue is a swelling of the entire mucous membrane, giving rise to longitudinal folds and channels, easily distinguished from the folds noted in bulbar paralysis by the consistency of the tongue. The cloudiness of the epithelium gives rise to the changed color of the tongue; it appears grayish-white, white, or yellowish-white—that is, the tongue is coated. The back of the tongue is chiefly affected, the sides and tip being red. The desquamation does not take place as uniformly over the tongue as the other processes. It commences on the papillæ fungiformes. These latter appear as submiliary or miliary round, dusky-red dots, surrounded by a white area. Thus the tongue gets its strawberry appearance. In the third stage the sides of the tongue, and more particularly its tip, retain their red appearance and strawberry aspect longer than other parts of the tongue. The new epithelial layer may be so thick that the tongue appears coated anew. The swelling gradually goes away. The above is the usual course, but there may be departures from it. In two cases the dulling of the epithelium was absent, and the desquamation excessive, so that the longitudinal muscle bundles were seen. In another case, the epithelium was only detached in part, and a new layer developed quickly, so that the tongue appeared coated throughout. It resembled a dyspeptic tongue. The author says that the fungiform papillæ appeared round and erect; whereas in the dyspeptic tongue they are elongated, and slope toward the tip of the tongue. Generally speaking, the digestive troubles cause the tongue to be coated before the scarlet-fever process has had time to affect it. If scarlet fever be combined with a septic condition, the latter determines the condition of the tongue. As the new infection appears early or late, so is the scarlet-fever process interrupted. Generally speaking, the tongue, after losing its epithelium, develops a strawberry appearance, and then becomes dry. Bleeding cracks may be seen, which can lead to deep ulceration, or true diphtheritic membrane may appear. Out of the 48 cases the tongue was typical in 38. In 4 cases, one or two of the stages were only very slightly developed; and in 6, the typical scarlet-fever tongue was altogether absent. Of these 6, there was severe gastric disturbance in 2; another case was in a chlorotic girl; in the fourth case there were symptoms of septicæmia, and death on the fourth day; and in the fifth and sixth cases the tongue was quite unaltered. Thus it would certainly appear that the scarlet-fever tongue is a tolerably frequent occurrence in the disease, and that when absent, complication or previous illness has altered the tongue in other ways. The tongue recovers its normal state with the cessation of the fever. In the majority of cases the tongue had lost its epithelium, and had become strawberry in three to five days. There is no proportionate relation between the intensity of the scarlet-fever poison as it affects the skin and tongue. Both processes are probably brought about in the same way, as their tolerably equal occurrence and their appearance much about the same time would suggest; and again, certain departures from the ordinary have shown a peculiar resemblance. Thus in one case with a puerpuric rash, the same was noted on the tongue; and in another, where syphilis was present as well, pustules were seen on the tongue as well as on the skin. Thus this condition of tongue, though not always present, is observed in many cases. It is, however, of less value than it might be, as it does not appear before the fourth day or so, and it may certainly be present in other illnesses.—*Deutsches Archiv für Klinische Medicin.*

Fetid Milk in Human Mammary Glands.—Dr. Jorissenne had under his care in 1874 a patient of slightly tuberculous aspect, though now, in 1891, she is in good health. On October 5, 1874, she was delivered by forceps. She suckled her child freely till December 7th, when she was absent from it for seven hours and a half. This space of time included a drive one hour long, five hours and a half walking, and one hour's rest for refreshment. Immediately on her return home she gave her child the breast. The milk was horribly fetid—like rotten eggs. It made her feel ill, and her relatives could not stay in the same room with her. Yet the infant sucked with avidity; however, it was violently sick. Next day the milk was sweet, and the child and also the mother quite well. The breasts showed no sign of hardness, engorgement, etc. The nipples were healthy. The patient told Dr. Jorissenne that on several previous occasions she had noticed that when she delayed giving the child the breast at the usual times the milk became fetid. Dr. Jorissenne had no further opportunity of observing this putrefaction of milk, as it did not recur. The patient was red-haired; but he has carefully examined the milk of many red-haired women since 1874, and failed to find that it showed any special tendency to putrefy or even turn sour, in the open air or in a close room, more quickly than milk from a black- or fair-haired woman. The avidity with which the infant imbibed the putrid milk was remarkable; its stomach was more sensitive than its nose and tongue. Evidence as to the acuteness of taste in the infant is imperfect. During the first few days of extra uterine life the sense seems undeveloped. The child will take solutions of raw salines without sirup, though a few weeks later it will reject the same compounds nicely flavored. The sense of sweetness is early developed. At the end of a few weeks an infant likes sugar, and dislikes cow's milk unless sweetened artificially. Children of six months, or older, will lick ill-tasting colors off their toys. In Dr. Jorissenne's case, the child liked a milk that smelt intensely fetid and must have tasted nasty, according to an adult's idea of taste.—*Archives de Tocologie.*

Preservation of Hydrogen Peroxide.—For this purpose Kingzett recommends the addition of a small amount of ether. Experiments conducted by the author show that pure hydrogen peroxide lost, in twenty-eight days, ten per cent.; in ninety eight days, 27.4 per cent.; in two hundred days, thirty-nine per cent.; and in four hundred and ninety days, 89.2 per cent. The addition of sulphuric acid reduced these figures to 9, 23, 27½, and 68.3, respectively. Alcohol reduced them to 1, 7, 4, 7.4, and 22.8, respectively, while ether still further reduced them, showing a loss of the peroxide in the times mentioned of 0, 1.3, 2.4, and 15.9, respectively.

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & Co., Nos. 56 and 58 Lafayette Place.

New York, May 16, 1891.

SOME FACTS ABOUT THE SEXUAL FUNCTION.

A REVIEWER of Gross's "Treatise on Impotence and Sterility," in the *American Journal of the Medical Sciences*, makes some straightforward and healthful statements regarding the male sexual function, which deserve the attention of all medical men. He says, speaking of the duties which fall to a writer on such a subject as that treated of by Dr. Gross:

"He should set in evidence the incontrovertible fact that the generative apparatus of the male, after half a century of complete disuse, may be capable of procreation; as also the equally established fact that it may accomplish the same end after a similar lapse of time, in the face of the most persistent and frightful abuse. The wonderfully planned conservation of its power, under the jealous protectorate of the recuperative energy of the body, in both health and disease, in precocious development and tardy decline, should be well understood by him who resorts to a therapeutic measure or a surgical mutilation. With this it should be demonstrated clearly that the procreative is far from holding the pre-eminent place among the powers of the body, being often preserved in the fullest measure by the tuberculous, the syphilitic, and the idiotic; that it is often most successfully active in those periods of human life when the best powers of a man are actually immature; and that it may be wholly wanting, or but very feebly developed, in individuals who physically represent the grandest and noblest types of the sex. He should be able to prove rigorously that the words 'potent' and 'impotent,' in the sense of their common usage, have no meaning whatever for the expert, and express chiefly the erroneous concepts of those who employ them, the majority of healthy men being both potent and impotent in this false sense; and, given a fixed moment and certain conditions, the average man will be 'potent' or 'impotent,' according as a thousand factors may operate in the one direction or the other. He should show that the human like the other animal brutes (as, for example, in the type of the North American savage), may, indeed, at all times be competent to effect a rape at will, but that the 'civilized' man, even when governed by immoderate lust, and possessed of unusual vigor, is often 'impotent' in conditions of health. He should be able to demonstrate that there is a prostatic no less than a uterine 'flood and ebb,' in each month, of sexual congestion and its reverse, and point out the fact that as women are distinguished from the females of all other animals (in generations of transmitted inheritance), by a menstruation which may be described as the price of virginity and chastity, so the 'spermatorrhœa' of the male may be a condition of his clean living; and that even when his losses at night occur 'without erections and dreams,' he is in no danger of touching that 'pathological' state described by our author (without correction) in the revised edition before us."

The reviewer, presumably Dr. Hyde, of Chicago, in the above observations, affirms that man may be continent for years without becoming impotent; that the sexual function in civilized man is not the dominant one, is not necessary to the highest type of manhood even, and is not normally increased in the higher processes of evolution; finally, that man "menstruates" in a certain sense as well as woman, this menstruation being the price of his chastity.

The author is particularly severe in his criticism of Dr. Gross's view, that masturbation and so-called spermatorrhœa are frequent causes of stricture and impotence.

DENTISTRY AND SYPHILIS.

THE labors of modern syphilographers have shown that syphilis is relatively often communicated by other means than sexual intercourse. The disease cannot be considered a purely venereal one. Among the methods of innocently transmitting syphilis, that of the practice of dentistry is one to which several writers have called attention. Dr. L. Duncan Bulkley, however, has lately collected with much care all the literature on the subject, and presented it in a very forcible way at a meeting of the New York Odontological Society.

The poison of syphilis, he says, may be received from four different sources, viz.: 1, The initial sore; 2, mucous patches; 3, the syphilitic ulcerations; 4, the blood.

In dental operations it is practically the mucous patch which is the chief source of danger. This secretes a viscid and intensely contagious substance which may adhere to the instruments or the person of the operator. From the infecting person danger arises first to the patients, and second to the dentist himself. Instances are given illustrating the infection of both classes by the syphilitic poison. Fifteen cases of infection of patients by dental operations are cited, and five cases of infection of the dentist. These numbers are not large, and the mode of infection is not established to a certainty in every case. Still enough evidence is furnished to show the reality of the danger, and no doubt many unnoticed or unrecorded cases have occurred.

The infection rarely occurs by direct transmission, although instances of this kind (by tooth transplantation) are on record; more often the disease is transmitted indirectly by means of instruments. Dr. Bulkley says: "The agents and objects which may become the conveyors of the poison are as numerous as the implements and articles which may come in contact with the mouth in dental manipulations. For convenience these may perhaps be grouped in three or four classes, as follows: 1, Instruments proper; 2, napkins; 3, rubber dams, wedges,

dental floss, etc.; and, 4, plaster, rubber, etc., used in connection with the making of artificial teeth and sets."

As a means of prevention it is recommended that the instruments be boiled or dipped in strong solutions (ninety-five per cent. of carbolic acid. "Forewarned is forearmed," and the dentist who understands the possibility of syphilitic infection in his work can easily guard himself against it.

CAN WE COMPLAIN OF SYMPTOMS?

An esteemed correspondent from Providence, R. I., writes us:

"I was recently called upon to testify in a seduction case, and my testimony was to prove the date of menstruation prior to pregnancy. A wrangle occurred between the opposing lawyers as to the admissibility of my testimony, and the judge decided that I could testify only concerning pain or suffering in the patient. I said that she was not in pain and was not suffering, but complained of certain symptoms, and was at once taken to task by the judge, who said that a patient could not complain of symptoms but of facts which were to a professional mind symptoms. It seemed to me that if a patient complained of nausea, of dizziness, and mental worry, she complained of symptoms. Am I correct in the use of the word?"

Our correspondent was right and the judge was wrong, as judges sometimes are.

The term "symptom," in its technical and medical sense, means "a change in the body or its functions, indicating disease" (Webster). Cough is a symptom indicating, perhaps, the disease phthisis. It is both a symptom and a fact. The patient complains of the cough, not of the phthisis or the bacilli which cause it.

The learned judge probably had in mind the other definition of symptom, viz., that of a sign or token. But medical usage identifies the sign with the thing or fact. A person suffers from fever, which is, in many cases, both the symptom and the only fact we know regarding a morbid change.

The Rhode Island judge should correct his views.

CHEAP DOCTORS.

We not infrequently have complaints of cheap medical service of doctors who take a fee of twenty-five cents, or of club doctors who treat hundreds of people annually for the merest pittance. A correspondent recently sends us an illustration of a somewhat new departure in cheap doctoring:

"A day or two ago two insurance agents came to my office and requested me to apply for the responsible (?) position of medical examiner for their company, the compensation being the munificent reward of twenty-five cents a head, and to go to the applicants' houses to examine them at that. I need not say that I politely bowed them out of the office.

"Next day I happened to meet the agent of another company, who had offered me a similar position nearly two years ago at a remuneration of fifty cents per capitem, which of course I respectfully declined. This agent told me he had since then been waiting for some impecunious doctor, and at last his patience was rewarded by finding a new-fledged graduate who is willing to accept the position at the rate of twenty-five cents a head. How are the mighty fallen! Physicians found eager to degrade their profession by giving their services for such a paltry stipend! What is the profession coming to? Why, a poor cobbler can earn as much in a few minutes by patching a pair of old shoes. We must, at this rate, soon exchange the doctor's office for the cobbler's shop."

We read accounts like the above with the feeling that, unfortunate as such things are, they cannot soon be helped. Professional pride disappears very soon in the presence of penury and hunger. There are too many doctors in the country for all of them to get large, or even just, fees; and there are always people ready to take advantage of this fact.

The community ought to learn, however, that cheap doctoring is not safe, and in the end does not pay. It is perfectly impossible for a man who has made himself a thoroughly good physician, and who is conscientious in his work, to live upon these small fees. Those who take them are, in nine out of ten cases, incompetent and untrustworthy, or careless in their work. We should like very much to know what life insurances pay their examining physicians twenty-five cents a head. A publication of their names would kill them among intelligent people within twelve months.

HYSTERIA AND HOSPITAL INTERNES.

The daily papers give an account of a poor woman who committed suicide by drinking a quantity of belladonna liniment. It is stated that the ambulance surgeon mistook the case at first for hysteria; a diagnosis of opium poisoning was then made, and finally one of belladonna poisoning. We cannot vouch for the accuracy of these details, but they are in perfect harmony with a very common and very reprehensible practice which prevails among the young men on the house staff of our hospitals. This practice consists in labelling as "hysteria" a large number of cases that exhibit a little too much moral perversity or emotional excitement. Cases of serious mental disease, of apoplexy, poisoning, and other serious conditions have been diagnosticated as hysteria and treated with the disciplinary severity which it is thought that hysteria in hospitals should receive. A good deal of injustice and neglect sometimes result from this particular hospital habit. It would be well if the house physicians and surgeons were impressed with the fact that hysteria is a real disease, of somewhat rare occurrence, and not particularly easy to recognize. It is not identical with emotional excitement or belladonna poisoning.

THE QUEEN AND THE PRESIDENT.

The Queen of England has gone to Grasse—we make the statement with all respect and spell it with an "e." Her stay there has called forth from the *Lancet* the following gentle and affectionate tribute:

"Her Majesty's stay at Grasse is now drawing to a close, and if certain rumors which reach us from a source on which we have good grounds to place reliance are true, the country will have additional cause to rejoice that Her Majesty returns to England in excellent health. We learn that there have also been a comparatively large

number of cases of such illness as is generally traceable to insanitary surroundings. Moreover, we understand that small-pox has been prevalent about Grasse, and was so at the time of the Queen's arrival there. Doubtless Her Majesty's advisers take measures of precaution when she visits foreign places, but we would point out that where a life of paramount importance to our country is concerned it is absolutely imperative that the most eminent experts in sanitary science should be called in to testify to the hygienic condition of any town or locality proposed to be made the temporary abiding place of our sovereign."

President Harrison has been to California. He has subjected his life to the dangers of an enormously long railroad journey; he has just escaped being blown to pieces by a prematurely demonstrative cannon; he has journeyed over alkali plains, among barbarous Indians and exuberant cowboys, and has experienced the dangers of unboiled water, unsettled weather, and unusual climates, but he is coming back safe and well, and we propose to offer our cordial and unpartisan congratulations upon the event. Our readers are doubtless somewhat divided as to whether Mr. Harrison ought to have been made President; but as he holds this high office, we do not doubt that every one wishes him the enjoyment of good digestion and sound physical health. We cannot express toward the President the same grandmotherly tenderness which our esteemed contemporary, the *Lancet*, seems to feel toward the Queen, but in the essentials of cordiality we need not be behind it.

THE "SWEATING SYSTEM" IN MEDICAL PRACTICE.

We hear a great deal about the "sweating system" as applied to the so-called laboring classes, and of the iniquity of compelling people to work for nine or ten hours a day. But it occurs to us that this same system is not confined to day laborers, artisans, and mechanics. Medical practitioners by contract, those who do work by the year for clubs and friendly societies, are most luminous examples of how the "sweating system" can be applied to men of education and professional skill. Some of the societies pay $1 a year per family, and many pay so small a sum that each professional visit costs but a few cents. Yet the members of these societies are the very persons who cry out against ten-hour days and unjust wages.

We do not advise, however, that medical men indulge in strikes or organized resistance. Such measures offer but brief and inadequate respite from the trouble, and do not in any way alter the inevitable working of economic laws. It is better to teach people the injustice they do and the harm it works upon themselves, and also to teach physicians that they had better leave a profession which offers so inadequate recompense. Meanwhile it is but right to remind the unfortunate "sweated" classes who form the friendly societies that they should do as they would be done by. Such societies had better be abandoned, so far as medical service is concerned, if they work in so pitifully unjust and inadequate a way.

The subject brings to our mind some recent statistics regarding the rewards of medical practice in Great Britain prepared by a medical man and published in the *Quarterly Review*. He estimates the average medical income at about £200 ($1,000), which is rather a small sum surely for the work done and responsibilities assumed.

News of the Week.

The American Medical Association.—The final session of the Association was held on Friday morning. There was a comparatively small attendance, a large number of the delegates having already gone home. The meeting was opened by prayer by the Rev. Dr. John H. Elliott, of the Ascension Episcopal Church of Washington. Dr. Wood read the report of the Committee on the Jenner Centennial Celebration. A number of inquiries had been sent out to men in each State, and to these some twenty replies had been received. There was a practically unanimous sentiment in favor of a celebration of the discovery of vaccination, "the greatest boon that has ever been conferred upon mankind," and some even suggested that three days instead of one be devoted to this celebration. The committee simply recommended that the celebration be held, but thought it best to leave the task of elaborating a definite plan to a standing committee on the centennial, to which also shall be referred all the details of the proposed celebration. The centennial will occur on May 14, 1896. The report was accepted and the committee continued, and a resolution was adopted to hold the celebration, and so to time the meeting in that year as to include May 14th, which day should be given up wholly to the appropriate exercises. Quite a number of the members of the Pharmaceutical Association, which has just closed its deliberations, was present, and Mr. Taylor and Professor Remington of that association were invited to seats upon the platform. Professor Remington read a resolution from the Pharmaceutical Association thanking the Medical Association for organizing a section of materia medica and pharmacy. The committee on the president's address made a report in which it was advised to adopt several of the suggestions there made. The consideration of the proposed changes was, however, laid over to the next annual meeting. Dr. Reed, of Ohio, offered a resolution looking to the incorporation of the Association, which up to the present time has had no legal existence, and after considerable discussion the matter was referred to a committee, which was instructed to report at the next meeting in 1892. The names of the newly elected officers of sections were then read. Owing to the absence of Dr. W. L. Schenck, of Topeka, Kan., the address on State medicine was read by title. On motion it was determined that Congress be memorialized to pass a law for the District of Columbia recognizing the secret nature of the confidences between the physician and his patient. This was in accordance with the suggestion offered by Mr. Ross in his address of welcome on the first day of the meeting. The announcement having been made that certain members wanted to be made delegates to foreign societies, it was moved that they be empowered to act as delegates to all foreign societies except the British Medical Association, which, it was stated, had treated Americans very shabbily. This was opposed by Dr. Davis,

who said that the British Association had always treated the delegates well, the trouble last summer having been solely because the meeting was held in the home of a man who disliked Americans. It was then decided that the president and secretary could give credentials to any society that they thought proper. The new president, Dr. Marcy, of Boston, Mass., was introduced by Dr. Briggs and made a few remarks appropriate to the occasion. After the usual vote of thanks to the committees, physicians, and ladies of Washington, hotels, railroad companies, etc., the Association adjourned to meet in Detroit on the first Tuesday in June, 1892.

The American Medical Temperance Association was organized during the meeting in Washington last week. The new society is modelled after the British association of a similar name. The following officers were elected to serve for the coming year: *President*, Dr. N. S. Davis, of Chicago; *First Vice-President*, Dr. R. Quinby, of New Jersey; *Secretary*, Dr. T. B. Crothers, of Hartford; *Treasurer*, Dr. George W. Webster, of Chicago.

The Continental American Medical Congress.—The committee appointed to consider the question of a Pan-American Medical Congress met in Washington on Thursday last and elected Dr. Reed, of Ohio, *Chairman;* Dr. Carhart, of Texas, *Secretary*, and Dr. Love, of Missouri, *Treasurer*. The officers were appointed a committee to prepare the by-laws and a constitution and to report at an adjourned meeting at St. Louis, October 14th.

The American Academy of Medicine.—The sixteenth annual meeting of this society was held in Washington on Saturday, May 2d, and Monday, May 4th. About thirty of the fellows were present at the opening session. Dr. Charles McIntire read a paper on "The American Practitioner Abroad," after which the reports of various committees were presented. Thirty-six new members were then elected. At the second session Dr. Steiner read a paper entitled "Will the Shortening of the College Curriculum Conduce to Better Preparation for the Study of Medicine?" The speaker did not believe that any good would result from such a course. Dr. McIntire presented another communication entitled, "An Attempt to Determine the Ideal Preparatory Course of Studies for the Learned Professions," and Dr. D. S. Jordan opened a discussion on "The General Education of the Physician." He believed that the colleges should begin the medical training of the future physician by teaching him the elements of anatomy, chemistry, microscopy, botany, etc. The president, Dr. Parvin, of Philadelphia, then read his annual address. The election of officers resulted in the choice of—*President*, Dr. Phineas S. Conner, of Cincinnati, Ohio; *Vice-Presidents*, Drs. R. Lowry Sibbett, of Carlisle, Pa.; George J. Fisher, of Sing Sing, N. Y.; Henry M. Lyman, of Chicago, Ill., and Louis S. McMurtry, of Louisville, Ky.; *Secretary*, Dr. Charles McIntire, of Easton, Pa.; *Assistant Secretary*, Dr. Edgar M. Green, of Easton, Pa., and *Treasurer*, Dr. J. Chester Morris, of Philadelphia.

The following resolutions were adopted:

Whereas, Like the American Medical College Association, it is the purpose of the American Academy of Medicine to promote a suitable and thorough education in all persons who choose the practice of the healing art as their life work; therefore we wish to congratulate the members of the Association on the success which has already resulted from their efforts, and to support them in their undertakings by the following statements:

Be it resolved, That medical colleges should require a preliminary examination of students in the branches which constitute a high-school curriculum, including one year's study of the Latin language, unless said matriculates hold diplomas from literary colleges, universities, or State normal schools.

Resolved, That in our opinion the course of study in all our medical colleges should be graded and extend through not less than three years of eight months each; that the instruction should not only include practical anatomy and abundant opportunities for clinical study, but a thorough training in chemistry, histology, and pathology.

Resolved, That it is the sense of this Academy that there should be in each State a Board of Medical Examiners to promote the foregoing conditions in physicians, also to determine whether practitioners in medicine and surgery, as such, are fit to receive the implicit confidence of the public to which their services are offered.

The Academy then adjourned to meet next year, but without designating the time or place.

Long Island College Hospital, Brooklyn, N. Y.—The regular course of lectures will hereafter be six months in duration. Three courses of lectures will hereafter be required for graduation. Joshua M. Van Cott, Jr., M.D., has been appointed Professor of Histology and Pathological Anatomy, vice Frank Ferguson, M.D., who has resigned.

Mount Sinai Hospital Dispensary.—Dr. W. M. Leszynsky has resigned from the Mount Sinai Hospital Dispensary.

The Society of the Alumni of Bellevue Hospital held its second reunion and dinner on May 13th, at the Hotel Brunswick. Dr. Charles Phelps, President of the Society, presided. Toasts were responded to by Dr. D. B. St. John Roosa, President of the Post-Graduate Medical College; Dr. Starling Loving, of Columbus, O., of the staff of 1849–50; Dr. D. Bryson Delavan, J. C. Alexander, and others. The dinner was largely attended, there being about one hundred and fifty present. Many of the older Alumni from distant places were present, and the occasion was a highly enjoyable and successful one.

The Post-Graduate Medical School held its sixth annual dinner at the Hotel Brunswick, on May 12th. Speeches were made by the President, Dr. St. John Roosa; the Secretary, Dr. C. C. Rice, Mr. F. I. Taylor, Rev. Arthur Brooks, Dr. George F. Shrady, Mr. Garden, and Mr. F. Hopkinson Smith. The school, it was stated, had had an unusually prosperous year. Nearly four hundred and fifty students had been in attendance. The school had been obliged to enlarge its quarters still further, and had purchased two more adjacent buildings. The sum of $5,000 had been given to assist in paying for these, and more money was promised. The annual banquet was a kind of jubilation over the well deserved success of the School.

Odd Names.—Our learned confrère, Dr. George Jackson Fisher, has made a study of the curious names of historic medical men (*New England Medical Monthly*). The list given shows that many estimable gentlemen must have suffered distress of mind at some periods of their lives, on account of their too suggestive and cacophonious names. We all know of Dr. Physic, Dr. Bum, and Dr. Beef, and many are familiar with Dr. Turnipseed, Dr. Diet, Dr. Frey, Dr. Ham, and Dr. Chew. But Dr. Fisher gives us many other names which arouse our sympathies toward their unfortunate but eminent possessors.

Sir James Paget has written a letter to *Nature* setting forth his belief that Pasteur has furnished to the world a real "cure" for hydrophobia. It must be admitted that just now Pasteur is ahead of Koch.

Dr. Virchow Denounces Kochism.—The lower house of the Prussian Diet on May 9th voted 165,000 marks for Professor Koch's institute. Professor Virchow opposed the grant and denounced Kochism, claiming that it had proved a failure. He warned the doctors who were using the lymph that they ran a great risk if they persisted in treating their patients with the alleged remedy.

An Extraordinary and Tragic Accident occurred at a wedding near Louisville, Ky., recently. Sixty guests were present. Of these, forty were taken in from four to sixteen hours with violent and persistent vomiting or purging (or both), attended with great prostration in all, and collapse in some cases. Death was the result in five cases, and it is not certain that more will not follow. The cause was probably ptomaïnes in the chicken salad. Careful investigation failed to reveal any metallic poison or any tyrotoxicon in the milk.

A Law Regulating the Practice of Midwives has been enacted in Minnesota.

The Growth of the Professor.—The Kansas Medical College has appointed a professor of railroad surgery, but this is nothing beside the Post-Graduate Medical College, which has professors of the rectum, of intubation, and of electricity.

College Commencements.—Maryland University has graduated a class of eighty-seven; Niagara University, ten; Virginia Medical College, fifteen; Leonard Medical College, six; Arkansas Industrial University, twenty; Louisville National Medical College, four; Western Pennsylvania Medical College, fifty.

Dr. E. T. Reichert succeeds Dr. Dulles in the editorship of the *Medical and Surgical Reporter*, which journal is enlarged to forty pages.

Sexual Precocity.—Texas has always had just occasion to feel proud of its products, but the following, reported by Dr. A. P. Brown, of Fort Worth (*Medical Standard*), will perhaps awaken somewhat contradictory emotions. Dr. Brown writes: "I lately saw a three and one-half year old weighing sixty-eight pounds, ruddy, fat, and jolly, who has hair two and one-half inches long on his pubis and a penis four and one-half inches long, one inch in diameter, and about four and one half inches in circumference. There is no prepuce. It is believed he has a tolerably good idea what a penis is used for outside of urination."

Rush Medical College.—The chair left vacant by Dr. Parkes's death will be divided by Drs. Roswell Park and Senn. Dr. John Parmenter will succeed Dr. Park at the Buffalo Medical College.

Bryonia was formerly used by Stoerck, the Vienna therapeutist from whom Hahnemann borrowed most of his materia medica, in the conditions in which Hahnemann's disciples use it to-day, pneumonia, bronchitis, pleurisy, rheumatism, and phlegmasia. Bryonia, according to Huchard (*Medical Age*), has an elective action on the serous membranes, and, on account of the substitutive hyperæmia which it produces, can be employed with success in the treatment of phlegmasias of the splanchnic and articulary serous membranes, also in rheumatismal or rheumatoidal affections. The drug was used by Hippocrates.—*Medical Standard.*

The World Moves, Including Alabama.—An Alabama medical society has repealed the rule prohibiting consultation with sectarians.

Medicine has the Right of Way.—At Berlin, a corporation ordinance has been adopted which will give to the carriages of physicians the right of way through streets that are crowded. In order that these carriages may be at once distinguished from others like them, the coachmen who drive them will don a white hat. This new headgear has been proposed for the prevention of embarrassing delays of medical men in the principal thoroughfares, and will become a recognized demand for the right of way at all times.

Michigan is the happy possessor of four kinds of legally recognized doctors, viz., the regular, homœopathic, eclectic, and physio-medical. A bill to regulate the practice of medicine has been agreed upon, and this bill provides for a State board of examiners to consist of three members recommended to the Governor by the Michigan State Medical Society; three members recommended by the Michigan State Homœopathic Medical Society; two by the Michigan State Eclectic Medical Society; one by the Physio-Medical Association of Michigan.

Cannibalistic Therapeutics.—Working under the direction of Brown-Séquard, M. D'Arsonval has made a series of experiments with the juices of different animal tissues, such as the muscle, the glands, etc. He makes these juices aseptic by filtration through the Pasteur filter. No conclusions are yet announced.

State Medical Society Meetings in June.—Pennsylvania State Medical Society, Reading, June 2d, 3d, 4th, and 5th; State Medical Society of Wisconsin, Madison, June 3d, 4th, and 5th; Delaware State Medical Society, Rehoboth, June 9th and 10th; Maine Medical Association, Portland, June 9th, 10th, and 11th; Massachusetts Medical Society, Boston, June 9th and 10th; South Dakota State Medical Society, Chamberlain, June 10th, 11th, and 12th; Rhode Island Medical Society, Providence, June 11th and 12th; Michigan State Medical Society, Saginaw, June 11th and 12th; New Hampshire Medical Society (centennial), Concord, June 15th and 16th; Colorado State Medical Society, Denver, June 16th and 17th; Ohio State Medical Society, Put-in Bay, June 17th, 18th, and 19th; Minnesota State Medical Society, Minneapolis, June 18th, 19th, and 20th; Medical Society of New Jersey, Long Branch, June 23d and 24th.

The American Anthropometric Society, founded for purposes of mutual autopsy, has begun its career somewhat ominously. The President, Dr. J. Leidy, died shortly after its organization, and studies upon his brain have already begun. We shall be somewhat curious to learn who aspires for the vacant chair of the eminent deceased.

How to Stop a Cold.—We are pleased to learn that a distinguished rhinologist has at last got a method which will arrest an attack of cold in the head. Whether this method cures *tuto, cito, et jucude*, may be open to some question, but it is at least profoundly scientific. It is as follows: "The nasal mucous membrane is exsanguinated by means of cocaine. Then the lower portion of the turbinated bone is perfectly dried by pledgets of cotton. Then, with some chromic acid fused on a small probe, the superficial portion of this surface is cauterized from one-fourth to one-third of an inch in diameter. This coagulates the mucus and renders the membrane unyielding, so that the blood cannot return when the effect of the cocaine has passed away. The action of the caustic is not beneficial as a destructive agent, but by its influence in controlling the circulation and so stopping the inflammatory process."

Bacilli in Syphilis.—Dr. von Marschalko, who has been working in the pathological laboratory of the Buda-Pesth University at the subject of the bacteriology of syphilis, has devised a method of staining by which bacilli may be found in syphilitic growths of various kinds, such as papules on the skin, the indurated base of a chancre, and condylomata, as well as in the secretion of primary sores, while he has not been able to find them in non-syphilitic growths or in the secretion of soft chancres. Whether they are really inseparably connected with syphilis can of course only be decided by a prolonged series of observations, but there would at least appear to have been a *primâ-facie* case made out for further investigation. The method employed is by double staining, as follows: The object, after having been hardened in alcohol, is immersed for thirty-six hours in an alkaline solution of methyl blue; it is then rinsed well with water, and restained by a concentrated solution of vesuvin in water. The bacilli are stained blue, and can be easily distinguished from the tissues, which are brown.—*Lancet.*

Tuberculin and Climate.—Dr. Detweiler, of Falkenstein, has been for four months using tuberculin in connection with climatic cure, and his conclusions, therefore, are of especial value. He says he has had four months' experience with 128 patients. Of these, four, or 3.1 per cent., were discharged quite cured and free from bacilli; improved, forty-three, or 33.6 per cent.; stationary, fifty-one, or 39.6 per cent.; worse, twenty four, or 19 per cent.; and six died, or 4.7 per cent. These results are very small in comparison with those hitherto obtained at Falkenstein, and even lower than formerly. His statistics were based on fifteen years' experience. His conclusions were: 1. That tuberculin exerts an action in tuberculosis different from that of any remedy hitherto known. 2. The manner of its action (good as well as bad) is not to be estimated beforehand in any individual case. 3. It is uncertain in diagnosis, since indubitable cases of tubercule do not react. 4. The risks involved are not great, but sometimes surprising, and anxious accidents occur. 5. Its curative effect is but small. It might be better if only very small doses were given. He discountenanced its use in moderate and severe cases. 6. The remedy was not a true specific, since it did not render the lung immune or kill the bacilli. 7. At present a final judgment is not possible, and we are still entitled to expect a curative effect in the smallest foci under a careful use of the remedy.

The Medal of the Berlin Medical Congress.—The great memorial medal of the Tenth International Medical Congress of 1890 is now being struck in silver and in bronze. Its diameter is seven centimetres, and its design is the joint work of Professor Virchow and the government architect Jaffé. Its obverse is adorned with a vigorously modelled Æsculapius sitting on a throne erected on a globe repre senting the earth. The inscription is, "Tenth Interna tional Congress, Berlin, 1890." The reverse represents the city of Berlin as seen from the Column of Victory, with the arms of the city adorned with laurel twigs, surrounded by the arms of the nine most largely represented States and the names of the other thirty-one. Above the view of the city is stamped the name of the member of the Congress for whom the particular medal is destined.

Regulating Medicine With a Vengeance.—Senator Searles, of Texas, is a very funny man. He has intro duced into the Legislature a bill, of which the following are some of the provisions:

"*Whereas*, Much complaint exists in regard to undue discrimination upon the part of physicians practising in the State in giving to one person larger doses of medicine than to others; and whereas, further complaint exists that said physicians exact from their patient exorbitant fees; and whereas a remedy for these evils is imperatively demanded, therefore:

"*Section* 1. Be it enacted by the Legislature of the State of Texas that all pills prescribed or administered by any allopathic physician in the State of Texas shall be of the uniform weight of five grains, and shall be administered in the dose of one pill each and every hour for not less than four consecutive hours nor more than eight hours. All doses of liquid medicine shall be in fifteen-drop doses each, one dose every consecutive hour for not less than three nor more than six hours. For homœopathic physicians one dose of pellets of sugar shall equal five grains in weight and shall be administered as prescribed for allopathic physicians, and all liquids shall be administered as follows: When one drop of medicine is diluted in one barrel of water, the dose shall be one wineglassful; if one drop from the first barrel be diluted within another barrel of water the dose shall be one teacupful, etc.

Section 2. The fees of all physicians shall be as follows: For each visit to a patient fifteen cents per pill per mile, and twenty cents per liquid dose per mile for the first three miles, and two-thirds of said several rates for each additional mile in excess of three miles. In cases of parturition the charges shall be five cents per mile and ten cents per hour for one child, five cents per mile and seven cents per hour for twins, and five cents per mile and five cents each for a litter."

We suspect that Mr. Searles was one of a litter.

St. Louis the Place.—The *Weekly Medical Review* thinks that the *Journal of the American Medical Association* should be moved to St. Louis.

Alcohol in Candy.—The Committee on Public Health reported the following bill to the Massachusetts Senate: "No person shall sell to a child under sixteen years any candy or other article enclosing liquid or sirup containing more than one per centum alcohol, unless authorized under the provisions of Chapter 100 of the Public Statutes and the acts in amendment thereof."

Obituary.

JOHN JEFFERSON MILHAU, M.D.,

NEW YORK.

JOHN JEFFERSON MILHAU, Medical Director of the United States Army (retired), and since a practitioner in this city, died May 8, 1891, at his residence, No. 41 Lafayette Place, of exhaustion, superinduced by abdominal and kidney troubles. He was the descendant of an old French family, the male members of which were more or less identified with the military affairs of both this country and France. His ancestors migrated to the West Indies in the eighteenth century, and his grandfather, a wealthy planter of San Domingo, was compelled to fly from that island during the revolution of 1789. He took refuge in Maryland and there became a citizen of the United States. Surgeon Milhau himself was born December 28, 1828, in Southern France, during a visit of his parents there. The family moved to New York in 1830. On September 14, 1850, he received an appointment as acting assistant surgeon in the United States Army, the year of his graduation from the College of Physicians and Surgeons of New York, and was ordered to duty in California, where he remained until 1854, having meanwhile received his full commission as assistant surgeon, April 30, 1851. In 1855 he joined the expedition against the Snake Indians, and later the Yakima expedition to Washington Territory. He fought through the Rogue River Indian campaign of 1856, and was at Fort Leavenworth, Kan., during the border troubles in 1857. He joined the Sixth United States Infantry in the Utah expedition across the continent in 1858. When the War of the Rebellion broke out he was ordered to the Third United States Artillery, and went to the front in 1861. Two months later he was appointed medical inspector of the Army of the Potomac, and in 1862 medical director of the Third Army Corps, his appointment as Surgeon U. S. A. dating April 16, 1862. He was present at the battles of the Wilderness, Seven Pines, Malvern Hill, Yorktown, and the second battle of Bull Run. He was then made medical director of the military hospitals and troops in Maryland. In 1863 he was appointed medical director of the Fifth Army Corps, serving as such from June 17, 1863, to November 20, 1864. Owing to illness, he was retired and ordered to duty at New York in 1864, and achieved quite a reputation as one of the surgeons in charge of the Central Park Hospital. From June, 1867, to May, 1869, he was medical director of the Third Military District and Department of the South. He was made brevet-colonel, March 13, 1865, and brevet brigadier-general, September 28, 1866. He retired from the army in 1876, and in 1878 married Miss Kate L. Manning, of this city, who died several years ago. During the cholera of 1866 he was stationed at Hart's Island, then a military post, where he remained until the cessation of the epidemic. In 1888 he was appointed Commissioner of the State Board of Charities, from which he resigned one year ago. At the time of his death he was secretary of the Emigrant Savings Bank, a companion of the Loyal Legion, N. Y. Commandery; a comrade of George Washington Post, No. 103, G. A. R.; a member of the United Service Club, the County Medical Society, the Academy of Medicine, and the Society for the Relief of Orphans and Widows of Medical Men. One child, a boy, seven years old, and the disceased's widowed mother, are the survivors of his immediate family. Dr. Milhau ranked as one of the best surgeons of the war, was a judicious operator, a keen diagnostician, and an officer of great executive ability. He was singularly approachable, as affable as he was firm, and during the whole term of his military service never lost the confidence of his superiors in rank or the devotion of his subordinates. He always did his whole duty quietly, unostentatiously, and effectively.

PETER V. S. PRUYN, M.D.,

KINDERHOOK, N. Y.

THERE died in the village of Kinderhook, Columbia County, N. Y., on Monday, May 4, 1891, Dr. Peter V. S. Pruyn, a true physician, a public-spirited man, and a Christian gentleman.

Dr. Pruyn was born in Kinderhook, about fifty years ago, received a collegiate education, and graduated in 1863 from the College of Physicians and Surgeons of New York. After spending a time in the hospitals of continental Europe, his father having died soon after his return, he commenced the practice of his profession, which was continued up to his death.

Dr. Pruyn was a man of untiring energy, true and honorable in all the walks of life, always ready to attend the calls of duty as devotedly in the cottage of the poor as in the home of the wealthy; no case was too hopeless to engage his earnest attention, or labor too great to deter him when duty called. He died of a heart trouble brought on by anxiety, care, and overwork. He leaves a widow and two children.

ETHELBERT CARROLL MORGAN, M.D.,

WASHINGTON, D. C.

IN the death of Dr. Ethelbert Carroll Morgan, which occurred last week at his home in Washington, D. C., the profession of this country has lost one of its most brilliant and useful members. In his short career of but thirty-five years he had won, by force of merit, a foremost position among the best known specialists not only of his own country but of his time.

Dr. Morgan was born in Washington, educated at the Georgetown University, at the Medical Department of the University of Pennsylvania, and abroad. In Europe he was a favorite pupil of Morell Mackenzie, Fauvell, and Schroetter, while subsequently he became personally known to most of the leading laryngologists of the day. He was honored with the best professional positions within the gift of his native city, having been the first professor of laryngology in the Medical Department of Georgetown University, and attending or consultant to the best throat and chest clinics in Washington. For ten years the acknowledged authority upon diseases of the upper air-passages in Washington, he was consulted by the most distinguished visitors and residents of the capital, so that few physicians had so wide, varied, and influential a clientèle as he. Certainly none had a greater number of devoted friends. Although one of the youngest Fellows of the American Laryngological Association he was, two years ago, elected its President. His contributions to scientific literature have been numerous and of the highest order. Of aristocratic lineage himself, the standards of his life, private as well as professional, were such as to constitute him an example all too rare. In character gentle, lovable, and pure, yet strong, courageous, and of indomitable will; a finished scholar, a devoted physician, a courtly gentleman; a man the full extent of whose loss cannot be estimated.

Society Reports.

American Medical Association.

FORTY-SECOND ANNUAL MEETING.

Held in Washington, D. C., Tuesday, Wednesday, Thursday, and Friday, May 5, 6, 7, and 8, 1891.

(Continued from page 548.)

SECTION ON PRACTICE OF MEDICINE AND PHYSIOLOGY.

SECOND DAY, WEDNESDAY, MAY 6TH.

Treatment of the First Stage of Pneumonia.—DR. J. W. SMALL, of New York, read the paper, in which he first briefly referred to other methods of treating the first stage of pneumonia, and then described that which he had found successful in cutting short the attack in many cases the past twenty years. The principle of its action consisted in drawing the blood from the seat of congestion to the surface. The feet were first rubbed, then gradually immersed in a mustard bath. Then poultices of flax-seed and mustard were applied, one over the thorax in front, one behind, one over the area of pain. He also gave some aconite and spirits of nitre every half hour, then every hour, finally every two hours. A profuse perspiration was set up, and within fifteen hours the temperature and pulse would be found nearly normal. He often gave a powder composed of equal parts of nitrate of potash and Dover's powder.

DR. F. W. GOODELL, of Vermont, advocated the use of veratrum in every case of pneumonia.

The Therapeutic Value of Mineral Waters. — DR. SMALL also read a paper and recited some cases illustrating the value of certain mineral waters in various chronic affections, particularly diabetes, Bright's, anæmia, chlorosis, etc.

Some of the Remote Effects of Injury to the Brain in Delivery.—DR. F. W. GOODELL, of Bennington, Vt., in a paper with this title, argued that right-handedness was due to injury to the left side of the brain, especially the motor area, during labor. In a considerable majority of cases the left side of the fœtal head, particularly the parietal region, took the advance, and was exposed to the greatest amount of pressure. He expressed the view that the caput succedaneum was due to absence of support at this point, and said that doubtless in many cases there was extravasation into the brain beneath as well as into the integument. In the course of centuries there became established a hereditary tendency to right-handedness.

DR. PUTNAM, of Boston, and others who discussed the paper, opposed the theory. Dr. Putnam was of opinion that children used the right and left hand indifferently, and later copied the custom of using the right hand from their parents and associates. He thought heredity had little to do with it.

DR. GOODELL replied to some criticisms, that heredity determined right-handedness in those born by breech presentation and Cæsarean section.

Recent Contributions to the Knowledge of Diphtheria.—DR. J. LEWIS SMITH, of New York, excluded from consideration in this paper the question of treatment. The great annual mortality from diphtheria justified the amount of literature devoted to it the past few years. It had been well established that true diphtheria was due to the Klebs-Loeffler bacillus or its ptomaïne. But certain other microbes were also capable of producing an inflammation with a pseudo-membranous exudation. The latter, however, unlike the Klebs-Loeffler bacillus, did not cause a certain form of nephritis and nerve paralysis.

Pseudo-membranous diphtheria occurred mostly during the course of some eruptive fevers—scarlet fever and measles. The paralysis and nephritis in true diphtheria were attributed to the ptomaïne of the Klebs-Loeffler bacillus.

Methods of Propagation.—Under this head the author spoke of diphtheria carried to the country by clothing shipped by the fresh-air fund; of spreading the disease by mild "walking cases;" by school rooms from which affected children had not been excluded; by open sewers. It was largely from exposure to walking cases and sewer gas that diphtheria was so prevalent in New York. The paper also contained cases in which diphtheria had been contracted from cats, birds, and other domestic animals. The vitality of the Klebs-Loeffler bacillus and its attachment to the person and articles was remarkable, extending over months and even years. In doubtful cases the microscope should be employed in determining the presence or absence of the Klebs-Loeffler bacillus. Diphtheria was often mistaken for follicular amygdalitis.

A Doubter.—DR. ECCLES, of Brooklyn, thought the author had gone too far in assuming that the presence of the Klebs Loeffler bacillus in a given case proved that it was one of true diphtheria, and its absence that it was one of pseudo-diphtheria. He referred the members to the paper of Dr. Vaughan, who had found true diphtheria produced by other bacteria, the Klebs-Loeffler being absent. In the same paper it had been shown that oil of gaultheria, for example, could be the product of plants of entirely different variety as well as of the wintergreen plant. He thought the same was true of germs, different ones might produce the same poison.

DR. OSLER said, with regard to the diagnostic value of microscopic examination, that very recently Dr. Welsh had been enabled to pronounce two cases as belonging to true diphtheria by finding the Klebs-Loeffler bacillus.

DR. VAUGHAN said he had made microscopic examinations in a number of cases in three epidemics of diphtheria, in the first two epidemics he had no difficulty in finding the Klebs Loeffler bacillus, but in the third, one-half of the cases proving fatal, usually with suppression of urine, he was unable to find this bacillus in any case. Here was a very fatal epidemic, the membrane was like that of true diphtheria, was it proper to call these cases not true diphtheria, but pseudo-diphtheria? If one admitted that the disease was produced by a ptomaïne, it should be remembered that different germs were capable of causing the same chemical poison or ptomaïne.

Cellars and Diphtheria.—DR. C. R. EARLEY, of Pennsylvania, gave a rather remarkable experience with diphtheria occurring where there were damp cellars. Disinfection and ventilation of the cellars caused the limited epidemic to disappear.

Character of the Evidence Respecting Arsenic as a Domestic Poison.—DR. JAMES J. PUTNAM, of Boston, attempted in this paper to show that the assumption that arsenical poisoning might occur from wall papers, etc., was without basis. As in slow poisoning with impure water, and by other means, so in that by arsenic, where there were few cases with marked symptoms there were many in which there was lesser impairment of the health. At Harvard the urine had been found to contain slight amounts of arsenic in a considerable number of people who were not taking arsenic. Then, too, this poison could accumulate in the system gradually in considerable quantity, for the reason that it was slowly excreted. Professor Wood, for instance, had found arsenic in the urine three months after the drug had ceased to be administered. The author said his paper contained reports of some undoubted cases of domestic arsenical poisoning, and expressed the belief that this was the cause of many cases of anemia, certain skin affections, etc.

DR. WOLF, of Philadelphia, said he had not infrequently found arsenic in the urine of persons not taking the drug medicinally, but he did not think it produced poisonous symptoms, for the reason that he had not infrequently administered it in very considerable quantities, even twenty five minims, without poisonous effects.

Drs. Osler, Earley, and Cronyn had seen no instance of presumable domestic arsenical poisoning. It seemed unreasonable to suppose it should happen, when the drug was so frequently administered in large quantity with immunity.

Naphthalin in Typhoid Fever, based on One Hundred Cases.—Dr. L. Wolf, of Philadelphia, read a paper with this title, "No Germicide Administered in Less than a Poisonous Dose Would Kill the Germs in the Intestinal Canal." Might not one be found which in safe doses would remain in the bowel, rendering it unfavorable for the development of the typhoid germs? He thought this was probably the explanation why the naphthalin treatment in one hundred cases had given better results than other methods in the same and other institutions. It was true the mortality had been ten per cent., but excluding the cases practically dying when brought to the hospital, this percentage would be reduced to two per cent. He thought naphthalin would be found more effectual than calomel in the treatment of typhoid fever, but it should not be used to the exclusion of other measures. Probably no remedy would counteract the toxic effect of the bacteria, but benefit would probably follow the cold bath.

Antiseptic Treatment and Liquid Diet in Typhoid Fever.—B. M. Griffith, of Springfield, Ill., had found antiseptic and antipyretic treatment of typhoid fever shorten the attack, make complications less likely, and render the patient more comfortable. The depressing antipyretics like antipyrine and antifebrine were not without danger. He used the salicylates for their antipyretic effect, and phenacetin as an antiseptic. He impressed the need of liquid diet, milk in particular, also alcoholic stimulants. The ice-coil should be avoided because rendering intestinal hemorrhage and lung and cerebral congestion liable.

Dr. Osler had administered naphthalin in a number of cases of typhoid fever, had found it control the diarrhœa, that it did no harm, but he did not think it had shortened the attack. He wished all would remember the words of Nathan Smith, to treat fever cases with plenty of fresh air, cold water, and (not least) not too much medicine.

Too Much Medication.—Dr. Levick, of Philadelphia, Pa., recalled the teachings of Dr. George B. Wood, and expressed strong regret at the great diversity of drugs which had come to be recommended in the treatment of typhoid fever. Watch, if not pray, was most called for. He was convinced that digitalis had many times caused the flagging heart to cease to beat, and other drugs do much if not as great injury.

Dr. John Cronyn, of Buffalo, N. Y., spoke of the benefit of hydrochloric acid, but opposed too much medication.

Dr. Wolf said, in closing the discussion, that quinine acted as an antipyretic when given in large doses in typhoid fever, but it proved otherwise injurious. Whiskey would act as a heart stimulant, it was true, but was seldom called for.

Third Day, Thursday, May 7th.

Epidemic Cerebro-Spinal Meningitis.—Dr. J. S. Nowlin, of Shelbyville, Tenn., read the paper. The name of the disease was misleading with regard to etiology and pathology. It was not, he thought, an inflammation. Death occurring often within five days was sufficient proof of this.

The author gave the history of five cases which he had seen in 1888, three occurring in the same family, two of these and two others ending fatally. He attributed the origin of the disease to drinking water from a spring in the enclosure of which grass and all manner of things had accumulated. The primary impression was upon the nervous system, and was, he believed, due to malarial poisoning. The clinical symptoms and success of treatment by quinine lead to this conclusion. The prodromal nervous symptoms were such as are seen in malarial fevers—headache, pain in the back, epistaxis, herpes. Then one of his cases also had a recurrence. The idea that cerebro-spinal fever was of malarial origin was not new, but its general recognition was necessary if we would successfully combat the disease. The treatment should be the energetic use of quinine, and he recommended its administration hypodermically, say, five grains of the bisulphate, dissolved in warm water, every hour. Quinine should also be employed as a prophylactic.

Dr. Dock said he did not think all cases of cerebro-spinal meningitis could be ascribed to malaria, since the former disease occurred when the severe forms of malaria do not occur. At the same time it was important to remember that malaria may simulate, and frequently does simulate, inflammatory disease of the central nervous system. It is important to recognize this fact, since in the malarial cases a remedy must be used which in the inflammatory cases would be considered dangerous, *i.e.*, quinine. No matter how deep the coma, or how severe the maniacal excitement or convulsions, quinine, in these cases, must be used boldly. Forty or sixty grains must be given in a few hours, and for a sure effect must be given under the skin, and if given early and boldly life will be saved.

As to diagnosis, this can be done with absolute accuracy by the microscopic examination of the blood.

Dr. Nowlin remarked that malaria existed practically everywhere.

The Presence of Albuminuria in Persons Apparently Healthy.—Dr. W. B. Davis, of Cincinnati, reported in this paper further on the case related in his paper read at the last previous annual meeting. The urine continued to show albumin, the man, however, had not been ill in ten years. Diet had no influence on the quantity of albumin present. It was only a short time ago, when albuminuria was supposed to invariably indicate nephritis. This view had of recent years been shown to be grossly erroneous, yet the general practitioner was still unnecessarily alarmed when albumin was found, although all other symptoms of nephritis might be absent.

Granger Stewart believed that albumin was sometimes present in the urine in two-thirds of the population. Another author believed it to be present in small amount in the urine of all persons, and Senator accepted this view.

Dr. Eccles, of Brooklyn, and Dr. Simmons, of California, had also found albuminuria in many persons in apparent health.

Euphorbia Pilulifera in Spasmodic Asthma.—Dr. J. H. Jenkins, of Tecumseh, Mich., sent a paper, read by Dr. Dock, in which the history of several cases of spasmodic asthma treated by this drug was given.

The drug was obtained from Australia, where it had a reputation in bronchial affections. The author administered equal parts of the fluid extract of euphorbia and glycerine, dose about one teaspoonful. It had been of benefit in most of the cases of spasmodic asthma.

Koch's Method for the Cure of Tuberculosis.—Dr. Karl von Ruck, of Asheville, N. C., gave in this paper an account of twenty-six cases of pulmonary and laryngeal tuberculosis treated by injections of tuberculin. His conclusions were that the remedy could be employed and all unpleasant symptoms or danger be avoided. While he believed that he had derived benefit from the method, yet the experience of many men would be required to establish the value of the remedy. For diagnostic purposes, he would use it only to exclude tuberculosis. The heart was more readily influenced by excitement during the treatment. He had not found albumin or casts in the urine.

Tuberculin in the Treatment of Tuberculosis.—Dr. S. P. Kramer, of Cincinnati, also read a paper giving some experience with this remedy. He thought the pendulum was swinging back too far. "That the remedy is a spe-

cific in tubercular disease no one who has seen its action in lupus will doubt." The cure of a single case was sufficient proof of this fact.

Dr. Earley, of Pennsylvania, thought the case of phthisis pulmonalis could be stated in the form of two interrogatories: 1. What are the indications to be met? 2. How to meet them?

Dr. Simmons, of California, thought tuberculin had fallen unjustly into discredit. While he did not think it a cure for all cases, he believed it was the most effectual remedy now at command.

Tuberculin at Johns Hopkins.—Dr. Osler said that on the whole the results at Johns Hopkins Hospital had not been very encouraging. There were about twenty-four cases in all. Five had been benefited. They were chronic, but the lesion in each was strictly limited. The unfavorable symptoms had been in the direction of extension of the disease previously limited, marked hectic, general aggravation of the symptoms.

Dr. Welch said he had made the post-mortem in one case referred to by Dr. Osler, the patient having died during the injections, and a simple croupous pneumonia was found to be the cause of death. In a case of tuberculosis of the knee, it was necessary to make excision during the course of the treatment, and a study of this specimen led him to think it possible that the remedy acted by causing the diseased process to become encapsulated.

Dr. Vaughan said he had made injections of filtered bacterial product in no way connected with tuberculosis (bacteria of water) in healthy persons and two consumptives. In the former it increased the temperature gradually up to between 100° and 101°, in the tubercular cases about the same amount. The latter said they were improved. He had employed tuberculin in eight cases without apparent benefit.

Action of the Turkish Bath in Disease.—Dr. Charles H. Shepard, of Brooklyn, read the paper. The temperature of the body was maintained at the same degree in an atmosphere far below freezing of water, up to and over 300° F. It was done through the action of the skin. The value of diaphoresis was recognized by Eastern countries in various affections. It was of the greatest importance in prophylaxis, as well as in such diseases as nephritis, phthisis, skin affections, etc.

The Turkish bath had not received in this country the attention its importance deserved. Nearly all eminent authors had testified to its usefulness.

Further Studies in Malarial Disease.—Dr. George Dock presented some of the points contained in his paper which bore this title. His observations regarding the plasmodium did not differ from those already published. During the year he had studied the blood in seventy-six cases in which the question of malaria had arisen, in forty-one the diagnosis of malaria being confirmed by the presence of the plasmodium. The others included cases of sepsis, intermittent neuralgias, etc. In all he first attempted to make a diagnosis by a study of the clinical symptoms, which he regarded of much importance in making us better acquainted with the disease. To show the value of microscopic examination of the blood in cases where the diagnosis was doubtful, he cited the case of a locomotive engineer who had been treated by different physicians for supposed malarial dropsy. Dr. Dock failed to find the plasmodium, although quinine had not been taken for some time. Examination of the urine revealed albumin in such quantity as to make a diagnosis of nephritis entirely safe. Under the circumstances large doses of quinine would have done harm. The milder cases of malaria were seen in the spring, the severer ones in the fall. There were certain reasons for supposing that some of the symptoms were due to absorption of a chemical product developed in the system rather than to the germs themselves.

Dr. Osler said it was very difficult to differentiate malarial remittent from typhoid fever, and at Johns Hopkins they always had the blood examined for the plasmodium as soon as doubtful cases were brought in.

Dr. C. R. Earley suggested that it might be well to appoint a committee to report at the next annual meeting whether germs caused the disease or the disease caused the germs!

Dr. Eads, of Washington, was elected chairman, and Dr. French, of Cincinnati, secretary for the ensuing year.

Electricity as a Therapeutic Agent.—Dr. William J. Herdman, of Ann Arbor, took a rather hopeful view, according to this paper, of the therapeutic future of this agent. Its application was either as a stimulant, a sedative for its electrolitic, cataphoric, or caustic effects. It aroused vital action, improved nerve activity, hastened osmosis, excited the secretions, quickened the circulation, aided elimination, allayed pain, made hypodermic medication possible without breaking the skin; it destroyed moles and nævi, removed hair, checked lupus, healed bedsores, dissolved colloid growths and strictures of the rectum, urethra, etc.; it coagulated blood in aneurisms, etc. He thought it entirely practical to draw the current from electric light wires. He had employed the Edison current the past two years without accident. It was perfectly safe.

(To be continued.)

TENNESSEE STATE MEDICAL SOCIETY.

Fifty-Eighth Annual Meeting, held in Nashville, April 14, 15, and 16, 1891.

First Day, Tuesday, April 14th.

The Society met in Watkins Hall, and was called to order by the President, Dr. George A. Baxter, of Chattanooga, at 10.30 A.M. Prayer was offered by Rev. C. D. Elliot, of Nashville.

Abscesses was the title of the first paper, read by Dr. T. J. Happel, of Trenton. He said this field was a profitable one for thought and investigation, especially in the direction of diagnosis. So far as the treatment goes, the Latin expression *ubi pus, ibi incisio*, gives us the therapy of such cases in a few words, so far as their last stages are concerned. The prophylactic treatment is a different matter. Everything that can be done to prevent the formation of pus, to prevent the development of an abscess, must be resorted to, but when pus is present the knife is the instrument for relief. An aspirator can remove the pus itself, but the cause of it, the pyogenetic something, is left behind. A free outlet must be given to the pus, the cavity carefully cleaned, perfect drainage secured, arrangements made for thoroughly flushing the diseased organ with antiseptic fluids, the strength of the patient maintained by a generous diet, and nature aided by an abundance of pure fresh air to repair the broken-down constitution.

Abscess of Spleen.—Dr. Happel reported a case of abscess of the spleen. He said this was a rare trouble, many of our best authorities never having met with a single case. He had in the course of seventeen years' practice found two cases; one due to pressure upon the organ, and the other to chronic malarial poisoning. He also reported a case of abscess of the cornea forming hypopyon, and one of the liver, which came under his observation. In closing he called attention to the peroxide of hydrogen as one of the best, if not the best, of all agents, used to cleanse and restore to a normal state all pyogenic membranes, surfaces, and cavities. As one writer expressed it: "It hunts out pus in all its ramifications as a ferret does a rat."

Ovulation and Menstruation.—Dr. George R. West, of Chattanooga, read a paper with this title. He said that many men held to their individual opinions in respect to this subject, and insisted upon remaining in darkness rather than to be disturbed by the entrance of facts which might bring light. The subject of ovulation and menstruation, their dependence or independence, is one

of those fields where individual opinions and theories run riot, and where the light of facts gained from research and experience is so perverted as to render uncertain the supposed certainty that has previously existed.

After giving a *résumé* of the literature on the subject, Dr. West drew the following conclusions:

1. That the increased familiarity with the pelvic organs, the result of modern surgery, has not materially added to our knowledge of their functions.

2. That though the ovular theory of menstruation has not been overthrown, yet the weight of accumulating evidence seems against it.

3. That the most recent observations point to a common nervous origin for both ovulation and menstruation, and yet an individual independence.

Treatment of Pneumonia.—Dr. Thomas M. Woodson, of Gallatin, contributed a paper on this subject, in which he briefly reviewed the literature on pneumonia to illustrate the opinions of medical teachers and writers. He extolled veratrum viride, and said that it is very useful in the first stage of the disease. Its two alkaloids possess different influences, but between them they fulfil every object that is sought for. Jervine, a powerful vaso-motor depressant, relaxes the walls of the blood-vessels everywhere, at the same time it so quiets the action of the heart by an action over its muscle or ganglia as to reduce its force, thus preventing engorgement of the lung; while veratroidine, by stimulating the inhibitory nerves of the heart also slows its beat, fills the ventricles, and allays excitement. The advantages of veratrum viride are its completeness and rapidity of action; the fact that it preserves in healthy blood-vessels the blood which may be needed in the crisis, if the disease is not aborted; and its safety.

In the first stage of croupous pneumonia the indications, said the speaker, are clear. 1. Control the circulation and diminish the determination of blood to the lungs. 2. Reduce the temperature if high. 3. Allay pain by both physical and physiological rest. 4. Support the vital powers.

The first two indications are met by veratrum viride better and with more certainty than by any other remedy. For the third, to allay pain, we have but one remedy—opium or its salts. The support of the patient, with especial reference to failing heart and respiratory centres, is accomplished by digitalis, strychnine, and alcohol.

More than twenty years ago the speaker expressed the opinion that in inflammatory affections veratrum viride was a sedative of the greatest value, controlling the action of the heart as effectually as blood-letting, without the exhaustion incident to the latter. Arterial excitement is reduced by it, while the vital forces are economized. It is especially adapted in pneumonia in the stage of engorgement, in which it appears to bring about prompt resolution. It may be used in the treatment of children with safety. Its constitutional effects having been secured there is a reduced force and frequency of the circulation, reduction of temperature and respiration, and an amelioration of all the symptoms of the disease. While extolling the virtue of this drug he would not rely on it alone in pneumonia, as opium was unquestionably entitled to a prominent place, being both palliative and curative in its action, allaying pain, cough, and nervous irritation.

Phthisis Pulmonalis, with Especial Reference to Prophylaxis, was the title of a paper contributed by Dr. J. R. Buist, of Nashville. As physicians, impressed with the claims of suffering humanity, we should never relax our efforts as long as consumption, with its multiplied ills, afflicts our race. Nor have we any right, as scientists, to despair of the ultimate triumphs of knowledge and the practical results of scientific research. The acknowledged failure of all the proposed plans for the cure of phthisis, based upon therapeutical agents, should lead us to other lines of effort for its destruction. The impossibility of procuring for the mass of consumptives the benefits of climate and altitude, even if these benefits approximated the value some assign them, should also admonish us to look to the higher plane of preventive medicine in dealing with this disease. Regarding Koch's parataloid as a remedy for consumption Dr. Buist said the high expectations so recently excited by these inoculations do not seem to be verified. Certainly for advanced stages of phthisis, and many other forms of tuberculosis, it is unsuited and positively dangerous; and it is not settled whether any benefit can attend its use in the incipient cases. Preventive medicine is, after all, the acknowledged aim and end of scientific research. Though still in its infancy, it has accomplished wonders for humanity. And it is obvious that its first and highest triumphs are to be won among the class of zymotic and infectious maladies. The power of prevention is incalculably more precious than any therapeutical measures. It is therefore highly incumbent upon us, individually and collectively, to assure ourselves of the modern theory of consumption, and so convinced, we should direct our attention and efforts to a rational prophylaxis of this fatal disease. It may be said that the true difficulty is to get the public to realize its danger from various sources, and, still more, to have wise prophylactic measures adopted. This is in the main true; yet education can perform wonders. The benefits of sanitary reform are now acknowledged and trusted, although fifteen years ago it met with indifference and opposition.

The public were invited to attend the evening session. Addresses were delivered by Hon. William Litterer, Mayor of Nashville; Hon. H. H. Norman, and Judge J. M. Dickinson. Dr. George A. Baxter also delivered at this session the Presidential Address, his subject being "Topics of Import to the Profession and Public." The address was scholarly, very instructive, and was listened to with marked attention.

Wednesday, April 15th—Second Day.

Chronic Endometritis.—Dr. J. S. Cain, of Nashville, read a paper on this subject, in which he said the question as to the localization of the chronic form of endometritis is rendered more prominent than that of the acute form on account of the conflicting opinions entertained by distinguished authors and teachers. None, he believed, questioned the very frequent occurrence of chronic cervical endometritis; but Drs. Emmet, Bennett, and other very distinguished authorities, almost absolutely ignored the existence of chronic corporeal endometritis as a special disease, and consequently, except for the relief of hemorrhages, and to meet temporary emergencies, discountenance all intra-uterine medication, relying entirely upon treatment directed to the uterine os and vault of the vagina. But the great preponderance of medical authority is averse to the opinions entertained by these gentlemen, and with the latter class he was entirely in accord.

Chronic endometritis, and the conditions necessarily allied therewith, are the most common, as well as the most important, diseases with which the gynecologist has to deal. This condition is often a sequel to the acute form of the disease, and grows out of repeated acute attacks. It matters not how or from what source the acute outbreaks originate, whether from catarrhal, specific, traumatic, or internal constitutional causes, they are often, but not always, the starting-point from which not only the endometrium, but the entire uterine and peri-uterine parenchymatous structures become involved. He would here venture the assertion, that while the changes in structure and function of the lining membrane of the uterus often seem to be the most prominent conditions, and those which demand our first and most careful attention, this tissue is probably never chronically diseased without a corresponding involvement of the entire uterine structures.

Treatment.—While the curette is a blind instrument

and capable of doing harm in careless and incompetent hands, yet for the removal of fungoid vegetations and adenoid degenerations from the endometrium it affords the surest, speediest, and safest means as yet devised. Dr. Cain was accustomed to follow the curetting by an application of Churchill's tincture of iodine of diluted carbolic acid, and always preceded the treatment by a careful washing out of the vagina and uterus with a one to two thousand corrosive sublimate solution.

In cases where this treatment is not admissible, or where it has failed to afford relief, his next reliance is on the electro-chemical action of negative galvanism, in removing the vegetations after the method of Apostoli. This is accomplished by introducing an electrode, insulated to near the point, into the uterine cavity, and connecting with the negative pole of the battery, connecting the other pole with a large pad of moistened potter's clay, sponge, or prepared cotton, placed over the abdomen. The time for employment of the galvanism at each treatment should be from ten to fifteen minutes, and the treatment should be repeated about twice a week.

The strength of the current to be employed will depend much upon the acuteness of the particular case, and the susceptibility of the patient to electrical treatment. The chronic cases always require the stronger current. The dosage may be fixed at from ten to three hundred milliampères; the minimum is, in his judgment, too small to accomplish any good results, and yet physicians with much larger experience have had to employ it.

This line of treatment he considers free from many of the objections to others; it is cleanly, free from pain, and exempt from danger. Unlike cauteries and escharotics, it can be limited in its influence and produces no deleterious effects upon the sound tissues, nor does it leave a raw and exposed surface, like the curette, to absorb poisons and septic agencies, and while it removes the vegetations it imparts renewed tone and vitality to the diseased organ.

Retained Placenta in Miscarriage.— Dr. A. J. Swaney, of Gallatin, contributed a paper on the treatment of this condition. He said the dangers from retained placenta in miscarriage were hemorrhage and septicæmia. Those who favor active interference when the delivery of the placenta is prolonged are Tyler Smith, Murray, Simpson, Leishman, Mundé, Grandin, and many others. The reasons given for active interference are the frequency of these dangers in prolonged delivery of the placenta. Simpson directs that if the cervix is dilated or patent to act at once; if it is not dilated he dilates it at once. The woman is then anæsthetized, the uterus depressed as much as possible by the external hand, and with the index finger of the other hand he removes the placenta and membrane. If he cannot sufficiently depress the uterus with the hand, he does not hesitate to forcibly drag it down by a double tenaculum fixed in the cervix. Mundé and Grandin go still further and curette the cavity of the uterus with special instruments made for the loosening of adherent placenta and its removal from the uterus. The authorities who counsel waiting for serious complications before interfering are just as many, and among them are Ramsbotham, Davis, Burns, Fleetwood, Churchill, Grailey Hewitt, and many others. Active intervention does not mean unnecessary interference. Nature is ever to be given a chance, but when we see that her efforts are futile certainly it is but rational to assist her, and this should be done, as directed by Mundé, by placing the woman in the left lateral position and with a dull wire curette removing the placenta, or any part of the secundines that may remain, through a Sims speculum. This is far better and easier than the method advised by Simpson, of dragging or pressing down the uterus and introducing the finger into the uterine cavity. The uterine cavity should then be washed out with hot water, slightly carbolized, every six or eight hours until all fetor has disappeared from the lochial discharge.

Hemorrhage after miscarriage, even when we believe the placenta and secundines have been removed, invariably means retention of a part of the placenta or secundines. Profuse hemorrhage may occur for weeks from this cause, and in such cases we should boldly explore the uterine cavity and remove any offending matter that may be present. In the first twelve weeks of pregnancy the dangers from hemorrhage and septicæmia are not so great, and the expectant plan is more justifiable. After the third month it is criminal negligence to wait and subject a woman to the dangers arising from retained placenta when she can be relieved by an operation, which, if properly done, can do no harm, and spare her the risk of hemorrhage and septic poisoning. In short, the author believed the early removal of the secundines is easy and safe, and forthwith guarantees the woman against the dangers of hemorrhage and sepsis.

Indigo as an Emmenagogue.—Dr. J. L. Jones, of Bells, said his attention was first directed to this drug as an emmenagogue, July, 1887, from an essay published in the *Medical and Surgical Reporter* of Philadelphia, by Dr. S. L. Gount, of Lafayette, Ind. Acting on the suggestions offered by Dr. Gount he had used it in many and various cases. His first case was a young lady, aged twenty, who had not menstruated in five months. He had been treating her for three months with the usual remedies without any effect, so he made up his mind to give indigo a trial, which he did. He ordered indigo ʒ ij., subnitrate of bismuth ʒ ss., well mixed. Of this the patient took one-half teaspoonful in one third of a glass of water, three times daily, for nearly four weeks, when one day he was sent for in great haste. On his arrival he found the patient on the bed, and comfortable. He was then told by the mother that her daughter, while walking in the garden, without pain or warning of any kind, began to flow. The gush was followed by a gentle flow, which lasted only for a short time. In five days she was well, and has not suffered from amenorrhœa since. Dr. Jones has since used indigo in thirteeen cases with but one failure, and this case proved to be pregnant. During the administration of the drug the os uteri becomes soft and patulous, admitting the end of the index finger. There is often a serous discharge from the vagina. The urine becomes brownish-green in color and its odor is offensive. The stools are watery and offensive.

Thursday, April 16th—Third Day.

Diabetes.—Dr. J. A. Witherspoon, of Columbia, read a paper on this subject, confining his remarks principally to diabetes mellitus. He said the term diabetes mellitus is a symptomatic one, being a deviation from health in which the processes of nutrition are seriously deranged, and presenting a group of complex symptoms, the most conspicuous of which are, first, frequent micturition, passing large amounts of pale saccharine urine. Coincident with this is a most insatiable thirst and dryness of the mouth and fauces, which is by far the most annoying symptom, the freest draughts of water giving but little or no satisfaction. The skin becomes dry and harsh, with complete absence of perspiration, and followed by a general pruritus, sometimes impossible to relieve. These were some of the many symptoms of the disease.

The etiology is yet an unsolved problem. Diabetes mellitus is an affection of adult life, but few cases being reported in children, and those always fatal. The only recovery reported, so far as the speaker is aware, was in the case of a girl twelve years of age.

The treatment is conveniently divided into dietetic, medicinal, and hygienic. The dietetic is by far the most important. We must exclude from the bill of fare all food-stuffs containing starch or sugar, for two reasons: 1. The normal action of the liver in its glycogenic function is seriously deranged so that it is incapable of oxidizing the maltose sent to it by the digestion of carbo-hydrates, and these are therefore useless aliments. 2. They seem

to aggravate and increase the glycosuria. A strict meat and green vegetable diet agrees better than any other. Some give milk, others forbid it entirely. He had found in the few cases he had treated that it was impossible to continue for long periods any one diet. The pure skim-milk diet is meeting with much favor. Alcohol and all spirits, except small quantities of light wine or beer, must be forbidden. This regimen alone will lessen the quantity of sugar eliminated, but it is necessary to use in connection with it certain medicinal treatment. The drugs giving the best satisfaction are opium or its alkaloids, ergot, arsenic, and many others. Of all the drugs recommended, codeine has been by far the most satisfactory in Dr. Witherspoon's hands. It was first suggested by Dr. Pavy, of London, and has the great advantage over its sister alkaloid, morphine, in not producing sleep. It is more efficient, less dangerous, and does not produce the troublesome constipation caused by morphine or opium. Next to it the speaker would place ergot for its physiological effect upon the walls of the blood-vessels. Recently sulphonal and antipyrine have been used with reported good results. He had never used antipyrine in this disease, for the reason that it is recommended in from 30 to 60-grain doses. He did try sulphonal in 10-grain doses, three times a day, and in two days it produced so much giddiness and sleepiness that he discontinued it. He had only used arsenic as an alterative tonic after the sugar had disappeared from the urine. With this treatment the patient should be advised to take light exercise, always short of fatigue, and his living rooms should be good and well ventilated. Alkaline carbonated waters are often of great utility.

Treatment of Strictures of the Male Urethra.—This was the title of a paper read by DR. J. W. HANDLY, of Nashville. He said that strictures of large calibre, if they be recent, but poorly organized and of the linear variety, may be treated by dilatation, which must be continued for months. But should the stricture be densely fibrous, and not easily dilatable, the cutting operation becomes necessary, for which purpose he prefers the Otis improved dilating urethrotome, with which the surgeon can accurately divide any stricture to any size desired.

Strictures of small calibre, situated in advance of the bulbo-membranous junction, unless seen very early, and found to be unusually soft and dilatable, furnish a typical condition for internal urethrotomy, that in which it is attended with the least possible danger and greatest prospect for a permanent cure. Should the contractions be so great that the Otis urethrotome cannot be used, he had found Banks's whalebone dilators, which are made in four sizes, of great advantage in opening the canal so as to admit of the urethrotome.

Strictures of small calibre posterior to the bulbo-membranous junction require a very different course of treatment, since internal urethrotomy at this point is often attended with profuse hemorrhages, fever, rigors, or other disturbances equally as disagreeable. Strictures of this variety, permeable only to filiform bougies, may be treated in one of the four following ways :

1. After the filiform bougie has been introduced it may be allowed to remain *in situ* for two or three days, and another passed alongside of it to serve as a guide for the introduction of a tunnelled sound, later to be followed by the ordinary soft or steel bougies. This is good and safe surgery in the absence of retention.

2. The surgeon may attempt to conduct a tunnelled sound over it at once, to be followed by gradual dilatation.

3. He may conduct over it a grooved staff and then proceed to the performance of external urethrotomy. Or,

4. He may use the staff as a guide for the Maisonneuve urethrotome, and may immediately perform internal urethrotomy.

Officers for 1892.—The following officers were elected for the ensuing year : *President*—Dr. J. W. Penn, Humboldt ; *Vice-President for Middle Tennessee*—Dr. J. A. Witherspoon, Columbia ; *Vice President for East Tennessee*—Dr. C. E. Ristine, Knoxville ; *Vice-President for West Tennessee*—Dr. C. H. Lovelace, Dukedom ; *Secretary*, Dr. D. E. Nelson, Chattanooga ; *Treasurer*—Dr. J. P. C. Walker, Dyersburgh.

Next place of meeting, Knoxville, on the second Tuesday in April, 1892.

Medical Items.

THE MEDICAL LEGISLATION OF NEW YORK IN 1891.

(Special to the MEDICAL RECORD.)

Albany, May 10th. The Governor has just signed the bill (Chapter 311) introduced by Senator Jacobs and Assemblyman Cooney, amending the Medical Examination Act of 1890, by making Section 11 read as follows : "This Act shall not apply to any student who duly matriculated in some legally incorporated medical college before the 5th day of June, 1890, provided that such student within three months after the enactment of this amendment shall file with the Secretary of the Board of Regents of the University of the State of New York, a certificate setting forth the fact of such matriculation, verified by the applicant, and signed by the secretary of the faculty of the college in which he matriculated. "As originally introduced, this bill also exempted those who began the study of medicine with some legally authorized physician prior to the 5th day of June, 1889 ; and provided that, instead of the signature of the secretary of the faculty of the college in which the student matriculated, there might be sent the affidavit of the physician under whom he began the study of medicine, setting forth the time when such student began such study.

This Amendment is to take effect immediately. In signing the Act Governor Hill filed the following memorandum :

"This Bill seems to be a reasonable and proper measure. On June 5th of last year I cheerfully approved the Act which provided for the creation of Boards of Medical Examiners, which Act was intended to pave the way for the establishment of a higher standard for practitioners of medicine to be thereafter admitted. There was considerable opposition to the Bill at the time, but such opposition was not permitted to prevail. Through inadvertence, it must be assumed, last year's bill omitted to except from its provisions those students who had duly matriculated at some medical college prior to the passage of the Act. This simply supplies that omission. The amendment is deemed entirely reasonable. Had my attention been called to the subject last year, I should have insisted that such students should have been exempted from the provisions of the new Act. The course suggested is not without precedent. When in 1871 new rules and regulations were established for the admission of law students, the Legislature subsequently, by repeated acts, expressly exempted from its provisions certain classes of students who had already entered law schools, or who had regularly entered upon their law studies, prior to the enactment of the law. (See Chapter 417, Laws of 1877 ; Chapter 126, Laws of 1878 ; Chapters 35, 257, and 349, Laws of 1879 ; Chapter 58, Laws of 1880 ; and Chapter 25, Laws of 1881.) These precedents are exactly in point. The Court of Appeals recently established new and additional rules for admission to the bar, but in the very order providing for the change it declared that the new rules should not apply to law students who had previously filed their certificates and were actually engaged in their studies. (See recent rules of Court of Appeals.) This seems to be just and fair in reference to law students, and we can see no good reason why the same equitable principle should not be applied to medical students who had acted in good faith, and who may be said to have ac-

quired certain 'vested rights,' prior to the Act of last year. The present Bill does not deserve the criticism to which it has been subjected. It is based upon a correct principle, and I can discover no good reason why it should not be approved."

The Governor has also signed a bill, introduced by Senator Robertson and Assemblyman Fish, declaring that as the Trustees of the College of Physicians and Surgeons in the City of New York, have arranged with Columbia College in said city to assume the instruction now given by the said College of Physicians and Surgeons as a department of the work of Columbia College, they are hereby authorized and empowered to grant, convey, assign, and transfer all real and personal property of which they as such Trustees are seized or possessed, to the Trustees of Columbia College, in the City of New York, upon such terms, conditions, or limitations as may be agreed upon between the two institutions. The Regents of the University of the State of New York, upon being satisfied that the Trustees of the College of Physicians and Surgeons have conveyed and transferred all their property, pursuant to the authority hereinbefore conferred, may accept a surrender of the charter heretofore granted by the said Regents to the said College of Physicians and Surgeons, and forever discharge the said Trustees from their trusts in the premises.

The only medical bill now in the hands of the Governor, and not yet signed, is one introduced by Senator Sheard and Assemblyman R. P. Bush. As there is no opposition to this, the bill might as well be considered a law. It appropriates $5,000 on vouchers duly authenticated by the regents of the University, for the necessary expenses of providing suitable shelving and furniture to receive the medical library offered to the State by the Albany Medical College, and for the necessary expenses of shelving, arranging, and cataloguing the said library. The said medical library shall be a part of the New York State Library, under the same government and regulations, and shall be open for consultation to every citizen of the State at all hours when the State Law Library is open, and shall be available for borrowing books to every accredited physician, residing in the State of New York, who shall conform to the rules made by the regents for insuring proper protection and the largest usefulness to the people of the said medical library.

A bill introduced by Senator Collins and Assemblyman Green never went beyond the Committees of the Senate and the Assembly. It amended the Medical Examination Act of 1890 so as to provide a board of medical examiners for the State of New York, to consist of fourteen members, each of whom shall have received the degree of M.D. in course from a legally incorporated medical college, authorized to confer such degree, and shall have practised medicine or surgery under the laws of this State for not less than ten years. The board of regents of the University of the State of New York shall appoint said medical examiners from a list of nominees to be jointly submitted by the faculties of Cornell University, Columbia College, Union University, the University of the City of New York, the University of Syracuse, the University of Rochester, Niagara University, and Colgate University, or such as shall join in such nomination. The faculties of each of the said universities shall be invited by the Board of Regents of the University of the State of New York to appoint from their own number a delegate to attend a conference for the purpose of making such nominations, at such time and place as the said regents may designate. The number of nominees thus submitted shall be not less than twice the number of examiners to be appointed, and shall comprise, in equal numbers, persons specially selected for their respective competence as examiners in the subjects hereinafter named, and the subject for which each nominee is recommended shall be stated in the list of nominations. The said Board of Regents may remove any examiner for neglect of the duties required by this act, or for malfeasance of any kind, and shall fill any vacancy caused by removal, death, or resignation, by the appointment from a list of nominees to be submitted by the remaining examiners, or an examiner for the unexpired term in the vacant subject. There shall be two examiners in each subject who shall serve for the term of four years, with the exception of those first appointed, of whom one shall serve for two years, and the other for four years, and the said Board of Regents shall in their first appointment designate the number of years for which each examiner shall serve. The appointment of successors to those examiners whose terms of office will expire on September 1st in each second year, shall be made by the said Board of Regents during or before the month of July preceding such expiration of terms of office, either upon the same conditions as hereinbefore specified for the first appointments, or upon nominations to be made by the remaining examiners, as the said Board of Regents may deem expedient.

It was further provided that examinations for a license to practise medicine and surgery shall be conducted both by writing and orally, and shall include practical tests in subjects to which these are applicable. The subjects for examination shall be: 1, anatomy; 2, physiology, including medical chemistry; 3, pathology, general and special, with diagnosis; 4, surgery, including surgical anatomy and clinical surgery; 5, obstetrics, including diseases of women and infants; 6, hygiene, personal and public; 7, toxicology, or pharmacology, omitting any reference to methods of practice or therapeutic doctrines. Any medical college which fails to give adequate instruction in all the above-named subjects shall be excluded by the Board of Regents from recognition as qualifying its graduates for their license. Upon the production of satisfactory evidence of a proper course of study, the applicant must pay $35 into the treasury of the University of the State of New York before he is given an order for examination by the Board of Medical Examiners. The names of unsuccessful candidates are not to be kept for reference in the public records of the University. The Regents shall have power to revoke any such license on evidence satisfactory to them of infamous conduct or malpractice on the part of the person to whom it was issued. Such license, unless so revoked, shall confer authority to practise medicine, surgery, or obstetrics, throughout the State of New York. Physicians and surgeons who live in other States bordering upon New York may enter this State for a distance not exceeding ten miles simply to practise; but they shall not open an office unless they have a license.

An unsuccessful attempt was made by Senator Stadler and Assemblyman R. P. Bush to amend Chapter 280 of the Laws of 1887, amending the several former acts for the promotion of medical science, so as to allow to medical schools the same privileges for procuring bodies that are allowed to medical colleges. This bill came from the Post Graduate Medical School and the New York Polyclinic, and what they asked was to be allowed by law what they were now granted by favor, claiming that it was only necessary to secure this by re-establishing the law of 1882. The bill was opposed by the President of Columbia College and others.

A bill, by Senator Cantor, to regulate the practice of dentistry, was killed in the Assembly. This required all dentists to be twenty-one years of age, and to be licensed by the Board of Censors of the State Dental Society for the judicial district in which the license was given. The object was to give young dentists a better chance to work for themselves.

Senator Fassett did not succeed in having passed an amendment to Section 834 of the code of civil procedure, enabling physicians to reveal professional facts to heirs. More fully stated, this bill provided that a person, duly authorized to practise physic or surgery, shall not be allowed to disclose any information which he acquired in attending a patient in professional capacity, and which was necessary to enable him to act in that ca-

pacity. In case such patient shall have died before the hearing or trial, his administrators, the executors named in his will, any of his next of kin or heirs at law, or either of the persons aforesaid, may waive the foregoing provision; but in the event the testimony thereupon offered or given, in the opinion of the court shall directly tend in any way to disgrace such patient, it may be excluded or stricken out on motion of any of the parties to the action or special proceedings in which it is given.

Assemblyman Gorman tried to strike a blow at patent and proprietary medicines by a bill which never went beyond the Assembly committee on the judiciary, providing that it shall hereafter be unlawful in this State for any manufacturer or dealer in patent and proprietary medicines to sell or offer the same for sale, unless the bottle or package which contains the same shall bear, plainly printed on a label thereon, the ingredients of which the said medicine is composed. All goods manufactured and packed prior to the passage of this act are exempted from the provisions of this act. Any manufacturer or dealer who shall violate any of the provisions of this act, shall be deemed guilty of a misdemeanor, and punished by a fine of not more than $50 for each offence in the case of retail dealers, and in case of manufacturers by a fine of not less than $500, nor more than $1,000, for each offence. The terms "manufacturer" and "dealer," as used in this act, shall be deemed to include any firm or corporation doing business as a dealer in, or manufacturer of, the articles mentioned in this act. It shall be the duty of any board of health in this State, cognizant of any violation of this act, to prosecute any person, firm, or corporation which it has any reason to believe has violated any of the provisions of this act, and the court or officer receiving the fine under any conviction under this act, after deducting the costs of trial and conviction, shall pay the sum over to the board of health prosecuting the case. In case such offence is not prosecuted by any board of health, the fine received shall be disposed of in the manner now provided by law.

Senator Ives had as little success with a bill providing that the Medical College Laboratory of the City of New York, a corporation created by the Act, Chapter 125 of the Laws of 1883, may acquire from its members, upon such terms as may be mutually agreed upon, the several individual shares of such members in the property of such corporation, and thereafter, subject to the special provisions of such agreement, any and all interest of any member of said corporation in its property shall cease to be a proprietary right, and shall not in any sense continue after his membership shall have ceased by death, resignation, expulsion, or otherwise. The directors of said corporation, at any time after such acquisition of all such individual interests as aforesaid, may devote any or all of the property of said corporation (subject and pursuant to the terms of such acquisition) to educational and scientific purposes; and to that end may enter into agreement with the University of the City of New York for the use of such property, and they may at any time in their discretion convey and transfer, by deed or gift to the said the University of the City of New York, any or all of the property of the said corporation, provided that no right of any creditor shall be thereby impaired.

Assemblyman Guenther, also without success, tried to amend the Erie County Pharmacy Act of 1884, so as to extend its provisions for the sale of poisons to places of one thousand inhabitants and over; and also to provide that it shall be unlawful for any person to open or carry on such pharmacy or store elsewhere, within said county, unless such person shall be, or shall employ and place in charge of said pharmacy or store, a registered pharmacist or assistant pharmacist, within the meaning of this Act, except as hereinafter provided.

The Assembly killed Assemblyman Peck's bill to establish a State Board of Veterinary Examiners, and to regulate the practice of veterinary medicine and surgery throughout the State of New York. This bill provided that the Governor shall appoint 7 veterinarians, each of whom shall hold a certificate of graduation from an incorporated veterinary medical college or university, to be selected from a number not exceeding 15, as follows: 5 nominated by the New York State Veterinary Medical Society, 5 by the New York County Veterinary Medical Society, and 5 by the Long Island Veterinary Medical Society; and their successors shall be appointed in like manner. The seven members thus appointed shall constitute the State Board of Examiners in Veterinary Surgery. Anyone who has practised or studied for two years may be examined. Students in college who had entered before July 1, 1891, are exempt from examination; and also all graduates of State veterinary schools. Anyone who has practised veterinary surgery for ten years can retain the title of veterinary surgeon; but anyone who has practised less than ten years shall have the title of farrier. Applicants holding a diploma or certificate of practice from an incorporated veterinary college or university in this State shall pay $10 upon making such application, and $5 upon receiving such certificate.

A Death from Tight-lacing is reported in England. The victim was a laundress, twenty-two years of age, living near London, whose head had been turned by complimentary remarks upon her trim figure, and who died in consequence of her efforts to render it even more trim.

They Want to Get Away.—The advertising columns of our esteemed contemporaries in St. Louis are devoted largely to the seductive representations of different railroad companies, showing how the citizens of that growing town can most speedily, and at least expense, get out of the city. It is perhaps a natural desire.

Immunity Against Influenza Furnished by Vaccination.—Last year the island of Madeira suffered from a double invasion of small-pox and influenza, and many people took the precaution to be revaccinated. Dr. Goldschmidt, a practitioner on the island, was struck by the fact that vaccination seemed to afford immunity against the influenza, and was led to investigate the matter to see if there actually was any relation of this sort between the two diseases. He found that no one of one hundred and twelve individuals upon whom revaccination had been successfully performed suffered from influenza, and of ninety-eight persons, in whom the revaccination did not take, only fifteen had any symptoms of the disease. In an isolated villa there were twenty-seven inhabitants, of whom twelve who were vaccinated escaped the disease, while the fifteen who were not vaccinated all suffered from a visitation of the grippe. Dr. Goldschmidt explains in this way the immunity generally enjoyed by young children in epidemics of influenza, believing that it is due to the influence of the first vaccination, which has not yet had time to become dissipated.

A Royal Paralytic.—Tippu Tib, the African chieftain, has had an apoplectic attack, in consequence of which he now suffers from paralysis of the right arm.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending May 9, 1891.

	Cases.	Deaths.
Typhus fever	1	0
Typhoid fever	10	4
Scarlet fever	199	23
Cerebro-spinal meningitis	3	3
Measles	325	21
Diphtheria	95	24
Small-pox	0	0
Varicella	1	0
Pertussis	1	9
Erysipelas	0	0
Mumps	1	0
Rötheln	0	0

Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 39, No. 21.
Whole No. 1072.

NEW YORK, MAY 23, 1891.

$5.00 Per Annum.
Single Copies, 10c.

Original Articles.

SPONTANEOUS (NON-INSTRUMENTAL) ACCESS OF BACTERIA TO BLADDER, AND SLIGHT VESICAL INCOMPETENCE, AS CAUSES OF CYSTITIS, ESPECIALLY IN THE FEMALE;

WITH REMARKS ON TREATMENT OF THE RESULTING DISEASE.

BY R. VAN SANTVOORD, M.D.,

NEW YORK.

THAT inflammation of the bladder is frequently caused by the introduction into it of bacteria, especially when dilated by the use of foul instruments, is generally known. That vesical inflammation may be caused by similar agents in persons into whose bladders instruments have never been passed, is a postulate in support of which a few clinical facts have been put on record, but which has not, apparently, attracted much attention. In the following paper it is proposed to give a short review of the literature bearing on the subject, and to submit the histories and a short discussion of some cases of the writer's which first called his attention to the matter.

At the outset of the study of this subject the question naturally arises as to whether or not bacteria may not be normally present in the urine. This question has been answered in the negative by Leube,[1] who, after collecting the urine in twenty instances from healthy males, under strict antiseptic precautions, and failing to obtain any result by culture experiments with the urine thus obtained, concluded that "the normal human urine contains neither bacteria nor their germs."

The conceivable channels through which bacteria may reach a bladder whose walls are intact, are by way of the blood- or lymph vessels directly or through the kidneys on the one hand, or through the urethra on the other. It has been apparently proven that the germs of a number of infectious diseases are discharged with the urine, which obviously reach the bladder in the former way.[2] It is not with these, however, that we are at present concerned. In the cases about to be cited the symptoms were associated with rods and cocci not distinguishable by the usual microscopic examination from those seen in all decomposing urine. It seems most probable that in these cases the bladder was reached, especially in women, through the external passages.

The following is a brief *résumé* of the literature which I have been able to find relating to the subject clinically. Sir Henry Thompson mentions a case in which he found the urine loaded with bacteria, although the patient, a male, had never been catheterized.[3] A case of repeated attacks of painful micturition resulting apparently from ammoniacal urine, containing enormous quantities of micrococci of various kinds, in a man who had previously suffered from gonorrhœa and cystitis, but who stated that an instrument had never been passed on him, is recorded by von Jaksch.[4] Schottelius and Reinhold[5] record a case also in a male, aged forty-five, not preceded by any infectious process except measles, or by use of any instrument, in which numerous bacilli were found in the urine. The only literature that treats the subject fully, that the writer has been able to find, is a paper read by Dr. William Roberts before the International Medical Congress in 1881.

Dr. Roberts gives the histories, first, of five males and two females, in only one of whom an instrument had ever been passed into the bladder. In that case it was done a number of years before the development of the symptoms for which he came under treatment. In all, symptoms of greater or less vesical irritation existed. In all, bacteria were found in the freshly-passed urine. Although in some cases the urine smelt badly when passed, in no case was it ammoniacal.

A marked peculiarity of this whole group of cases was that the urine, though turbid on being passed, largely from the presence of bacteria, settled clear and remained so for some days. All the cases, except one which was not treated, were cured or greatly improved by salicylate of soda, in doses of twenty or thirty grains given two or three times daily. In all, the cure or alleviation was accompanied by the disappearance or great reduction in the number of the bacteria.

Dr. Roberts made the following comments on these cases: "The circumstance that the organisms do not multiply in the urine after emission, points to the conclusion that their seat of development is not the urine itself, but some portion of the mucous membrane of the urinary tract. This form of bacteriuria is manifestly a different condition from that in which the urine becomes ammoniacal within the urinary passages, and which is presumably due to the micrococcus uriæ. It is also different from that phase of incipient decomposition through which all urines exposed to the air pass on the way to ammoniacal decomposition. In incipient decomposition, as in non-septic bacteriuria, the urine is opalescent and swarms with bacteria, but I could not distinguish, by their structural character, the organisms in the two contrasted conditions.

"The precise relations between the organisms and the symptoms in these cases require further elucidation. In women this condition may certainly exist without producing symptoms, or only a slight increase in the frequency of micturition. It is also seen in Case III. that the urine continued to manifest the presence of bacteria, though not in large numbers, after the symptoms had entirely passed away. If it be assumed that, in these cases, a colony of bacterial organisms becomes established in or on some portion of the urinary mucous membrane, it is probable that the symptoms would vary in kind and intensity according to the exact seat of the colony and the degree of activity of the growth going on in it." The doctor called attention to the fact that the histories of his cases did not support the view that in all cases the irritation of the urinary passages originates from bacteria. This was in some cases secondary, keeping up the symptoms. The mode of access, whether by the circulation or by the urethra, he regarded as doubtful; the latter, however, seemed probable in woman. The administration of salicylate of soda was followed by good results too frequently to admit of the supposition that its effects were only apparent, the recoveries being, in fact, spontaneous.

A case of bacteriuria is cited by Dr. Roberts at the close of his paper, in which the urine resembled in all re-

[1] Zeitschr. für klin. Med., 3, 233, 1881.
[2] Von Jaksch: Klinische Diagnostic, p. 193, ed. of 1887.
[3] Diseases of the Urinary Organs, 8th ed., p. 381
[4] Klinische Diagnostic, p. 192.
[5] Centralb. für klin. Med., 8, 635, 1886.

spects a urine which had become turbid from incipient decomposition, *i.e.*, it swarmed with bacteria and did not become clear on settling. The salicylate of soda had not the slightest effect on this patient. He narrates also the history of a healthy-looking boy of three years of age, the subject of recurring hæmaturia. The urine was al ways crowded with micrococci, singly, in pairs, or in masses. There were no rods. The urine was sometimes acid, sometimes alkaline. Urination was neither painful nor frequent.

My own first case was that of an active woman about sixty years of age, who had suffered for several months from vesical tenesmus, without much pain. She had never had any bladder trouble before, and had never had an instrument passed into that organ. She was fond of good living and sweets, had recently recovered from some undetermined variety of pain in one arm under the influence of a lithia salt, had had chills and fever, and applied to me for treatment on account of aching pains in the sacral region shooting into the legs. These disappeared promptly under quinine, and her vesical symptoms reappeared. The urine was found to contain a small amount of pus and numerous bacilli, the latter being present, in a sample examined within an hour of its being passed, in quantities too large to be accounted for by accidental contamination. Citrate of potash and broom-corn seed tea produced no alleviation of symptoms. The salicylate of β-naphthol was then given in five grain doses four times daily, this dose being increased to ten grains four days later. The symptoms were almost immediately lessened. In eleven days they had disappeared, as had also the bacilli. Two weeks later a recurrence took place, which the patient treated herself, without consulting the writer, with the same remedy. Again a cure was effected, and no further recurrence took place until the present month, an interval of over two years. As before, excessive tenesmus was complained of, but the bacteria in a fresh specimen of urine were probably not more than could be accounted for by accidental contamination after the urine had left the bladder. Complete relief followed the administration of betol and hydrochloric acid, the latter being given on account of dyspeptic symptoms.

This case seemed in many respects parallel to those reported by Dr. Roberts, though I did not note whether the urine settled clear when fresh, not at the time having read Dr. Roberts' paper. The betol has an advantage over the salicylate of soda in being much better tolerated by the stomach. The absence, however, of evidence of bacteriuria in the last attack would seem to show that the organisms had nothing to do with the symptoms. The condition of the urine in this case did not explain the symptoms; it was not concentrated, did not contain irritating deposits, and only a very little pus. The relief from the betol seemed too marked and immediate to be accidental. I could only suppose that the urine did contain some unknown irritant, due, perhaps, to the patient's faulty digestion, and that this was corrected by the betol.

My second case is one of ordinary catheter cystitis, which I cite for reasons which will appear later. It occurred in the person of a man aged fifty-five, whose bladder became infected by a catheter which was imperfectly cleansed by a careless nurse, his urine having to be drawn on account of retention during typhoid fever. Betol in five-grain doses was given early in this case, but was discontinued because it seemed to disturb the stomach. The bladder was washed out for a while, various substances being used, *i.e.*, borax, boric acid, hyposulphite of soda (recommended by Tait), and bichloride of mercury 1 to 10,000. The latter especially proved to be intensely irritating, possibly because some of it was left in the bladder. Internally citrate of potash was given. The urine meanwhile fluctuated in its opacity. The washing out of the bladder was very painful to the patient, and as no satisfactory progress was being made it was stopped, and betol, in five-grain doses four times daily, was again given with the citrate of potash. In twenty-four hours the urine was clear and all symptoms of irritation gone. In the earlier course of this case the betol had had no appreciable effect. I am inclined to think that during the treatment the vesical walls had been regaining their tonicity, and that perhaps the stimulation furnished by the painful injections contributed to this result. When finally the bladder became able to thoroughly expel its contents and artificial irritation of its walls was suspended, it got well spontaneously. Feltz and Ritter found that when the micrococcus uriæ was injected into the healthy bladders of dogs it was soon eliminated.[1] The use of unclean catheters is not always followed by cystitis.[2] It would seem that in all probability some previous lesion of the bladder, especially dilatation of that organ, was necessary in order to enable bacteria of the varieties under discussion to obtain a foothold.

In the above cited case I happened to be examining the urine daily before the cystitis developed, as the patient had a slight typhoid nephritis. Beyond this there was no evidence of disease in the genito-urinary organs prior to the catheterism. Dilatation of the bladder, due to retention following a small dose of morphia, was clearly the factor which rendered it possible for bacteria to secure a foothold in the organ.

The third case which I wish to present was the following: The patient was a lady about forty years of age. Her general health had always been good, except that she suffered from constipation and occasional attacks of indigestion. Fourteen years before her present attack her water was drawn after a confinement, but no instrument had ever been passed since that time. Five years before she had noticed that her water came away on sneezing or coughing, no confinement having taken place since the above mentioned. She had noticed that her urine was turbid for some months before the development of acute symptoms. She was accustomed frequently to go for many hours without emptying the bladder, that organ having finally become so insensitive, apparently as the result of training, that she was accustomed usually to relieve it from a sense of duty, not from any pressure, except that she was obliged to get up once in the night. I was called to see her on account of frequent and painful micturition following an exhausting shopping tour. The urine was turbid, alkaline, and, when examined five hours after being passed, contained triple phosphates. I regarded this as evidence that the urine was ammoniacal when passed, until I read of a case of myelitis of Leube's[3] which was supposed to have been passing ammoniacal urine for three months, because it was found to be ammoniacal within two hours after being passed; notwithstanding this, a fresh specimen drawn by a catheter was found to be acid and clear. This case is a warning against being too quick to draw conclusions from the condition of urine not examined immediately after being passed. In my patient the urine was always turbid, and the turbidity was always largely due to bacilli and cocci, the deposit of pus, at first considerable, being quickly reduced to a small amount. As many specimens, some being drawn by a catheter into a clean bottle, were examined within two hours after being voided, I am confident that I did not deceive myself as to the bacteria being present in the bladder. As no instrument had been used for fourteen years, it seems most probable that they had found their way into the bladder spontaneously. In addition to the dribbling of water on coughing and sneezing—a symptom which developed nine years after her last confinement, and which was not therefore the slight incontinence that often follows pregnancy—the patient stated that the urine came slowly and with some effort. I also found on one occasion, after the bladder had been emptied as thoroughly as possible by the patient, that the catheter brought away about half an ounce of urine more. The case, therefore, appeared to be one in which a mod-

[1] Gradle: Bacteria and the Germ Theory of Diseases, p. 69.
[2] Von Jaksch: Klinische Diagnostic, p. 192.
[3] Zeitschr. für klin. Med., 3, 233, 1881.

erate amount of dilatation of the bladder had been caused by the patient's habit of retaining her urine sometimes from morning to night. The turbidity of the urine, noticed some months before acute symptoms set in, may well have been due to the presence of bacteria whose intravesical propagation was rendered possible by the incomplete emptying of that organ. The case was, then, one of a variety mentioned by Dr. Roberts, *i.e.*, a bacteriuria without symptoms of vesical irritation until unusual exertion brought on an acute attack of inflammation, to which the dilatation and bacteriuria were apparently related as predisposing causes. In citing the reasons for disappointment in relieving symptoms after removing stone from the bladder, Sir Henry Thompson mentions the failure to regularly withdraw residual urine, one to one and one-half drachm having been found to be sufficient to give trouble. From this it is evident that a slight amount of vesical incompetence may be a serious matter.

The condition of my patient's bladder was strikingly suggestive of that of the rectum when similarly neglected. As a case similar to, though not so severe as, the above, shortly afterward presented itself, it has occurred to me that this sequence of events, viz., neglect to empty the bladder as often as it should be, slight incompetence from repeated slight over-distention, and spontaneous bacteriuria, might be much more common factors in the development of cystitis than the literature of the subject would lead one to suppose. In this case the urine, with one or two exceptions, never settled clear. It belonged, then, to Dr. Roberts' variety in which the urine, as passed, resembled urine undergoing decomposition.

In the treatment of this patient it was an easy matter to control symptoms by rest, belladonna, milk diet, and washing out the bladder, and to cause the pus to disappear. To produce any permanent impression on the bacteriuria was found to be quite another affair. Internally, betol in 20-grain doses every three hours; salicylate of soda, gr. xx., t.i.d.; salol, gr. x.; quinine, gr. ij., every three hours; saccharine, gr. x., t.i.d.; boric acid, gr. x., t.i.d., were all tried with no very definite effect. The saccharine for a time seemed to reduce the turbidity of the urine, the urine on one occasion settling clear; but the effect was not permanent. Solutions of nitrate of silver and sulphate of zinc, each two grains to the ounce, were used as vesical injections, once daily, and left in until they caused slight irritation. These solutions, mixed in a test-tube with the urine from this same patient, would precipitate all bacteria. Their effect, when used in the bladder in clearing up the patient's urine, was very slight, the urine next day not being as clear as after the use of a two grain to the ounce acetate of lead solution, which, when mixed with the patient's urine in a test-tube, showed very little power to control bacterial growth. Such attempts, in fact, were not very rational, if my ultimate view of the case was the correct one. To destroy the bacteria in the bladder by any means could have only a temporary effect if the fundamental dilatation persisted, and the bacteria could again find access from outside to the residual urine as soon as treatment was suspended. The recommendations of drugs for the disinfection of the urinary passages by internal medication are, as a rule, rather vague. My own experience in this case bears out Dr. Roberts' as to the uselessness of the salicylates as well as the other agents tried in this variety of bacteriuria, though boric acid was the only one which did positive harm in disturbing digestion.

With regard to bacterocidal injections, they can be of permanent use only if they destroy all the bacteria present, and means can be taken to prevent a new invasion. The fact seems to be that this is very difficult to do. A strong solution of nitrate of silver causes necrosis of epithelium and coagulation of mucus which may not have been previously washed out, or may have been secreted during its use. These bits of coagulated tissue protect germs from the action of the agent. The necrosed tissue and the depression of vitality of still living elements of the bladder-walls afford a most favorable opportunity for the rapid growth of the undestroyed germs. The foulest specimen of urine passed by the above-quoted case of catheter cystitis was after the use of a $\frac{1}{10000}$ solution of bichloride of mercury. Fürbringer,[1] it is true, claims to cure the most severe cases of catheter cystitis in from one to two weeks, by flushing the bladder twice daily with one or two litres of a $\frac{1}{5000}$ solution of bichloride of mercury. He uses a glass catheter, which can readily be kept clean, and allows the bladder to empty itself after being filled, *i.e.*, he does not restrict the amount of fluid allowed to flow into the bladder. He allowed the bladder to empty itself entirely after the use of the injection, and possibly it is owing to the shortness of contact of the mercurial solution that no irritating results seem to have followed. It would be of interest to know the condition of these cases some months after they had been cured by such free distention of the bladder as seems to have been employed. As the cases were acute, it is possible that no residual incompetence was left behind.

Tait claims that excellent results follow the use of hyposulphite of soda solution in catheter cystitis. I found that five per cent. of hyposulphite of soda in normal urine did not prevent it from swarming with bacteria in a few hours. It seems probable that the mechanical washing out of the bladder and the dilution of the residual urine—for the repeated injection and outflow of fluid from the bladder simply dilutes and does not entirely remove its original contents—keeps the urine from being very irritating, while the bladder-walls are recovering their contractility. The almost, if not quite, inert hyposulphite of soda does this quite as effectually as any other fluid. If a powerful disinfectant is not well tolerated, as in the case above cited, it is simply worse than useless.

The radical treatment of such a case resolves itself, therefore, into the cure of the vesical incompetence. Under this heading should first be mentioned certain things which are often done, which are apt to increase the evil. The use of narcotics is to be avoided as far as possible. Belladonna is especially cautioned against by Sir Henry Thompson. I have above suggested that the vesical irritation set up by an acute attack of cystitis may prove of benefit, by exciting vesical contraction and so relieving an existing muscular incompetence of the organ. While these agents may be indispensable in acute suffering, their effects should be carefully watched and not pushed to complete relief of tenesmus. It was part of the writer's early medical education to believe that the proper way to wash out a bladder was to use a sufficient amount of fluid to distend the organ, in order to unfold it and bring the injected fluid into contact with the whole surface. Such practice tends directly to dilate the bladder. Many authorities, such as Skene and Sir Henry Thompson, advise the use of very small injections, one or two ounces. If it can be accepted as true that even a slightly dilated bladder, especially in the female, can become spontaneously infected with bacteria, the great importance of respecting this caution is doubly obvious.

The internal remedies most used for vesical atony are strychnia, which is supposed to increase the sensitiveness of the vesical innervation through action on the spinal cord, and cantharides, which acts by irritation of the vesical mucous membrane. In the above case the latter drug, given in two-drop doses, afterward increased to five, would temporarily check the tendency to dribbling on coughing, but no permanent effect was produced. An attempt was made to have the bladder systematically catheterized and entirely emptied every evening, the husband being instructed in the passage and disinfection of the catheter. This resulted in nothing but the setting up of some irritation at the vesical neck, no improvement in the urine taking place. On considering this procedure, it is easily seen that it is not as easy to fully empty the bladder in the female as in the male. In the latter the residual urine is collected behind the prostate, where it is readily accessible

[1] Deutsche med. Wochenschr., No. 20, 1883.

to the catheter. If a partially distended bladder is examined in a reclining female cadaver, it will be observed that it hangs over on either side of the uterus in such a way that, when a catheter is introduced in the usual manner, the central portion of the vesical wall comes in contact with the instrument before the urine has all been evacuated, leaving an accumulation of urine on either side of the uterus. Ordinary catheterization does not, therefore, empty a relaxed female bladder, even when no abnormal adhesions or dislocations of organs exist. It is possible that, by placing the woman on her side and introducing a curved instrument into the dependent portion of the bladder, a complete evacuation could be secured by syphonage. In the case under discussion it was finally proposed to use electricity to restore the full contractility of the bladder. As, however, the patient had been rendered comfortable by the measures already employed, although still passing urine turbid with bacteria, she declined any further treatment. When last heard from, a number of months after cessation of all medication, she was still comfortable.

My fourth case, that of a lady about thirty-five years of age, had had bladder trouble with two confinements, fourteen and four years before present illness. She never had had an instrument passed into the bladder. For a long time she had complained of gushes of urine on laughing, and for a month before acute symptoms of vesical trouble developed she had to pass water somewhat more frequently than usual, and had to respond to the call quickly to avoid involuntary micturition. She had noticed that the urine smelt "strong" for some time, but did not know whether it had been turbid or not. Following a slight exposure, micturition became more frequent and painful, especially at the end of the act. No cause for bladder trouble previous to this final acute exacerbation could be determined. The urine was found to be turbid, alkaline, and containing, besides pus, numerous bacteria within two hours of its passage. The acute symptoms subsided under rest, broom-corn seed tea, and moderate doses of belladonna, but the urine did not improve. Betol, in ten-grain doses every three hours, produced no effect on the bacteria. The bladder was then washed out on four successive days—first with water that had been boiled, then with a solution of nitrate of silver, gr. ½ to 4 ounces, and again with boiled water, only two ounces being injected at a time, the soft rubber catheter used being boiled after use and kept in 1 to 20 carbolic acid. Under this treatment the pus almost entirely disappeared, the passage of urine became quite normal, both in frequency and painlessness, but there were still rather numerous rods and cocci in the freshly-passed specimen. Tincture of cantharides, 1½ minim, and sulphate of strychnia, gr. $\frac{1}{36}$, were given three times daily. Nine days after the last injection patient was feeling entirely well, and the rods and cocci in the fresh urine were very few in number—not more, in fact, than might have readily found their way in from the vagina, the presence of considerable vaginal epithelium showing the existence of vaginal discharge.

The unpleasant odor the urine had been presenting for some time before acute symptoms of cystitis developed, and the fact that the bacteria did not greatly lessen in amount till drugs were given which tend to strengthen the vesical contraction, can be fairly taken to indicate that, in this case as in the last, some vesical incompetence and spontaneous invasion of the bladder by bacteria had existed, giving rise probably to a low grade of inflammation, which was readily increased in severity by a slight exposure.

I wish to particularly call attention to the probable mode of action of the weak nitrate of silver solution in this case. At the present time, owing to the fact that most or all of the agents which have long been used as local applications in controlling inflammation are bacteriocides of greater or less potency, we are apt to attribute their efficiency to this power. In this case the drug was most potent in controlling the inflammatory exudation, but, as far as could be judged from my rough means of observation, had no immediate effect on the bacteria in the urine. Some observations made in 1889 by R. Henry,[1] on the action of astringents, are suggestive in this connection. On experimenting with astringent solutions of various strengths, he found that very weak solutions caused vascular contraction, very strong ones vascular dilatation and inflammation. Certain intermediate strengths would cause on the one hand vascular dilatation, and on the other would check the migration of white blood-corpuscles. The power of these agents to control inflammation seems therefore due, not to their astringent power at all, that is to their causing vascular contraction, but to their power of influencing the nutrition of the tissue-elements with which they come in contact. In a disease caused by bacteria they may be of service directly, by rendering the tissues less vulnerable to their attacks, and indirectly by preventing inflammatory exudations, which form a good culture medium for those organisms where they exist. It is in this way probably, and not as direct bacteriocides, that all remedies which exert control over bacterial diseases exert their power, except in applications used in certain cutaneous maladies in which the skin is sometimes more tolerant of certain agents than are its parasites. It is a very old matter of experience that, generally speaking, the inflamed bladder does best when treated by mild applications. It is something gained, I think, to fortify this fact of experience by the above-suggested explanation at the present time, when in our efforts to strike directly at the newly-discovered causes of disease, we are apt to forget the effect of our blows upon the patient.

The fifth and last case that I will mention was that of a lady of over seventy, whose urine I examined as a matter of routine, not because she had any vesical symptoms. She stated that it had been "smelling bad" just after being passed. A specimen examined within half an hour after leaving the bladder was found swarming with bacteria. As she showed no symptoms of vesical disease no treatment was directed to the bladder.

The writer was led to study this subject on finding how little was to be learned from readily accessible works on diseases of the bladder on the subject of spontaneous bacteriuria, and from the difficulty which he at first experienced in knowing just what significance to attribute to that condition. It is quite probable that such cases are familiar enough to those who have had much to do with vesical disease, and that they are very common. The habit of holding the urine too long, common among females, is generally commented on and condemned by authors. The importance of vesical incompetence as a factor in the etiology of cystitis is also generally recognized. The suggestions that the writer has to offer are simply that a minor degree of the latter evil is more often present than would be supposed from the literature of the subject, and that the spontaneous access of bacteria to the residual urine in such cases is a common and important factor in disease of the organ, especially in the female. It seems probable that the failure to recognize these factors may explain in a measure the difficulty often experienced in treating even mild cases of cystitis.

106 West 122d Street.

The Fourteenth Annual Report of the New Jersey State Board of Health and Bureau of Vital Statistics for the year ending June 30, 1890, has been issued. It is an interesting volume with a mass of valuable material, reflecting great credit on the Secretary of the Board, Ezra M. Hunt, M.D., LL.D., of Trenton. His several papers and statistics are excellent. The latter show a population of 1,441,017, number of deaths 28,530, or 19.80 per 1,000. Remittent fever claimed 195 victims.

[1] Virchow's Archiv, 1889, Bd., 116, S. 220.

A CONTRIBUTION TO THE CLINICAL USES OF PROFESSOR KOCH'S REMEDY FOR TUBERCULOSIS.[1]

By KARL von RUCK, B.S., M.D.,

DIRECTOR WINYAH SANITARIUM FOR DISEASE OF THE LUNGS AND THROAT, ASHEVILLE, N. C.

Mr. President and Gentlemen: At your request, made at our last meeting, I present to you this evening the results of my experience with Professor Koch's remedy, obtained in this institution after a ten weeks' use upon upward of twenty patients.

In the application of the remedy I departed, even from the beginning, from the teachings and methods observed by me during my stay in Berlin, in so far that I began with much smaller doses, and endeavored to avoid all febrile reactions, increasing very slowly, and allowing longer intervals in their repetition. I found by very frequent physical examinations, both before and after the injections, that local reactions occurred in the lungs without general symptoms, and were followed by the same effects upon the expectoration and other symptoms of the patient, as were witnessed from the remedy under larger doses with general reactions, and the general condition of patients did not suffer.

The local reactions occur frequently within three or four hours after injections, and last a variable length of time; for their recognition very painstaking comparative examinations and diagramic records are indispensable. Although at times left in doubt, I have been able to watch the effect of the remedy upon the lungs so closely, that the local changes were a sufficient guide to the increase of dosage, and I have made the frequent observations of the temperature, pulse, etc., not to demonstrate the action of the lymph, but to guard against the administration of over-doses.

Upon lupus and laryngeal cases, ocular inspection was of course possible, and these cases confirmed the position, that local reactions occur quite uniformly when all fever and general disturbance are absent.

I show you here the temperature charts of a case of lupus vulgaris, upon which you will see no fever curve whatever from the day he received his first injection to the present, and although you can now note the typical local reaction from the 35 milligr. administered this forenoon, you see his temperature is normal and has been so all day.

You will also note that the lupus patch on the right side of his face is entirely healed, showing only a faint reddish blush from his injection to-day, and that the patches and ulcerations upon the nose and forehead are covered with a dry crust, now partially detached, and under which you can see the parts healed over; in the still open ulcer upon the left cheek there are punched-out excavations where the tubercular tissues have suppurated and discharged; everywhere upon this open sore you see also healthy granulations and repair; proving, on one hand, the specific and selective influence of the remedy, and, on the other, that the good results from this method can be obtained without fever. That which you see here upon the face, I will give you opportunity to witness in the larynx, and hope to demonstrate to you in affections of the lungs. The microscopical preparation from this case Dr. Ambler will show you in the laboratory.

Now, I expressed myself when in Berlin, to several of Professor Koch's associates then in charge of the clinical work, that I believed many of the dangerous phases from its use could be avoided by moderating the doses and allowing longer intervals, and that I doubted the utility of any course under which the consumptive patient was made to steadily lose in flesh and strength, and I have also called the attention of the profession in this country to this subject.

[1] Read before the Buncombe County Medical Society, with demonstration of cases at the Winyah Sanitarium, March 2, 1891.

After Professor Virchow had read his first paper, upon the pathological changes observed by him in cases who died subsequent to the use of the lymph, I became even more conservative, and have had since that time no rise of temperature which could be at all suspected as due to the injections. Although it is not to be gainsaid that Professor Virchow in his post-mortem examinations saw only the unfavorable cases, and that the cases who were examined by him were far advanced, and would have died had no lymph been administered, the same as have a number of cases within a month, in my own experience, after I had refused to administer the remedy to them; we cannot ignore the pathological findings of so frequent general miliary tubercular eruptions of recent date, and while, undoubtedly, much closer scrutiny was brought to bear upon these cases by the pathologists who had occasion to examine post-mortem, and while similar conditions have before and since been observed in tubercular subjects who never received the lymph, to the unbiassed observer and student of the reports, a strong suspicion must arise that there is, to certain extent at least, a causal relation, and that under certain circumstances there exist dangers in the method which we must strive to understand, and avoid if possible.

All these dangers granted and understood, the value of the remedy is thereby not impaired, and the good results which we have already seen on every hand, are just as real.

Why, in some cases, the results were curative and were so shown even in post-mortem specimens, by Dr. Virchow and others (tubercular ulcerations had evidently and recently healed); and why a similar healing process was not shown by others, but, on the contrary, intensification of the disease-process being present, remains to be worked out in the future, the same as we have had to do, in our past experience, with other, and on that account, none the less valuable means for the cure of disease. I venture to suggest that at least one way to explain these apparently contradictory results is, that in some cases the tubercular material softened and necrosed more rapidly than it did in others, that by a rapidly induced necrotic process the dangers from absorption of active, infecting bacilli and spores are proportionally greater, and that the extensive broncho-pneumonic developments and general miliary tubercular eruptions are due to such absorption, and extension of inflammations produced by over-dosage.

In a similar process, established more gradually, necrotic processes would occur less frequently, or not at all, and inflammatory changes would effectually close and obliterate the absorbent vessels surrounding the area acted upon, and the danger would thereby be lessened, or altogether avoided.

Other things being equal, the rapidity of such changes must depend upon the intensity of the effect produced by the remedy, and it is fair to presume that the latter depends upon the amount of the remedy which reaches the tubercle in the pulmonary cases as well, as we see it to depend, as in the cases of lupus and other external tubercular affections.

I have purposely said that, "other things being equal" the rapidity of changes and intensity of effect would depend upon the dose administered. It would therefore behoove us further to see wherein certain inequalities existing may modify the effects of dosage. Most important, undoubtedly, are the inequalities for the time existing in the tubercular deposit or eruption itself and in its surroundings. The greater the vascularity in the tissue surrounding the tubercle the more prompt and intense must be the effect of the lymph; thus the miliary tubercle and the encapsuled deposit would have the least chance for being acted upon, whereas the effect would be most intense in deposits surrounded by granulation tissue. Pathological investigations have already proven this to be the case, without, however, offering this, to me, only possible explanation. Indeed, surprise, even doubt in the remedy have followed the demonstrations that

young tubercles or old deposits were apparently not influenced by the preceding injections of the lymph, while at the same time necrotic foci showed the action (perhaps too violent) unquestionably attributable to its use.

Could it not be that, after we have reached a certain dose which we are satisfied produces a local reaction under the continuance, or very slow increase thereof, the more recent eruptions would reach a stage of vascularization, bringing them also within its curative effect, and that only after a certain period of time, say several months, we can safely step to the larger doses, whereby we would have a sufficiency of the lymph within the blood at a given time, so that we could expect to reach the old deposits, which through the sparingly present capillaries in the fibroid capsule surrounding the tubercular focus, did not receive the amount of lymph necessary for the development of its specific action? Would this explanation, together with others to be offered further on, not also account for various anomalies in reactions heretofore observed?

I am firmly convinced that the excessive effects of the lymph are to be scrupulously avoided; we must steer clear of the acute and destructive processes which we see in the ordinary course of the disease, and, as heretofore, their production or occurrence is dangerous, no matter what our method of treatment may be.

Our German colleagues now admit that the dosage heretofore was excessive, inasmuch as they recommend it recently much smaller, and say that general reactions are not necessary. One of the gentlemen who takes this position now would hardly consider with me the propriety of such a course when I suggested it early in December.

The reason why lupus cases bear large doses without such complications is plain enough, when we note that there is nothing in these to hinder the ready discharge of the broken-down tubercular tissue; the conditions are entirely different in the lung, here no external communication may exist at all, and the only curative influence which we could desire upon the living tubercular tissue is pressure-atrophy. No matter how early the stage under such conditions, general reactions, the occurrence of bloody sputum, or hemorrhages, are not only not necessary, but are conclusive evidence that the dose was excessive, poisonous, and dangerous. The fact that in others, and perhaps a majority of early-stage cases, no such dreaded result followed, is no argument in favor of wilful incurrence of such danger.

It is quite possible for me to conceive of a dosage which instead of causing necrosis, would induce only such slight irritative effects upon the periphery of the tubercle or cheesy deposits that we might favor thereby the occurrence of nature's most desirable mode of cure, that is, pressure atrophy of living tubercular tissue, by fibroid or rather connective tissue proliferation and shrinkage, with slow cleaning of cavities and expulsion of tubercular cheesy matter upon exposed surfaces; and I am of the opinion that my dosage is productive of such results.

To show how undesirable necrotic processes induced artificially really are, I need only to call your attention to the great similarity between the classical symptoms of general reaction by Koch's remedy and the symptoms which obtain whenever we have a considerable process of softening and elimination of tubercular deposits in the ordinary course of the disease. Chills, fever, hemorrhages, loss of appetite, vomiting, general malaise, loss in weight and strength, variously associated, one or the other prominent, who does not recognize in them more or less rapid destructive processes of tubercular deposits? Is it not probable that we generate within the body through the agency of tubercle bacilli, the same lymph, or a similar product, that Koch obtains by artificial cultivation of the same germ? Is it not true that when these processes in the ordinary course of the tubercular disease are intense and long continued, our patients are apt to die from exhaustion, or from the occurrence of general miliary tuberculosis, and is not this the more likely an occurrence, when the patient is already much reduced and exhausted when such acute processes set in? When me now have such a case, is it not adding fuel to the already uncontrollable fire, to give large injections of lymph, and have we not already perhaps more of such action which the lymph produces than we feel safe to carry the patient through?

Already the experience with many such patients is decidedly unfavorable in the present mode of use of Koch's remedy, only the relatively strong cases, where the tubercular processes are circumscribed, have been able to stand such treatment. In my judgment, the lymph should be used only in that class of patients in which the acute symptoms have either entirely or at least largely subsided, but never during their height in decrepit patients, and in such not until they have been somewhat restored in flesh and strength by other means at our command.

You might ask me in the discussion, why not let nature do it in all cases, or why induce the changes with the lymph, in an apparently arrested, or in an early stage case?

I answer the question now, and point out to you that the presence of living tubercular tissue is ever a source of danger, as it is constantly undergoing changes which tend to extensions of the process and regularly lead to involvement of previously unaffected lung portions, and that if we can produce its elimination or encapsuling at a time when the patient is at his best in his general condition, if we can prevent his waste by the control we exercise in our dosage and also in his diet and general management, we are unquestionably the gainers.

Under nature's method, only those deposits soften and break down which have, so to speak, become ripe, while at the same time the disease is present in other parts in all its various stages of development; thus softening and repair, extension and advance, go hand in hand, and recur again and again until the patient is finally exhausted, or we succeed by means hitherto employed, in bringing about an arrestment more or less permanent. Even then the slumbering embers are liable to be fanned into activity by incidental occurrences, such as an acute bronchitis, an influenza, or other disturbances whereby the nutritive processes suffer.

This might seem contradictory to what I have said of the impropriety of giving lymph when acute processes are already in existence. Theoretically it might be given with advantage then also, and its use would be justifiable, were it not for the danger of exhaustion before the process is completed, and also the danger of increasing the liability to general infection which already exists; and may be favored by a too rapid destruction and separation of not only the part undergoing such change, but also of other deposits which reach the same stage later.

I do not offer these views with the assertion of their absolute correctness, which would be preposterous at this period of our experience; they are thoughts forced upon me by reflections upon what I have seen, read, and observed in my practice, and I offer them for your consideration and to bring about discussion.

But to come to our clinical results, which I desire more particularly to show you this evening. For this purpose are available twenty-one cases which have been treated a sufficient length of time to justify conclusions of the effects produced. To these belongs the case of lupus vulgaris already referred to, the remainder are all cases of pulmonary tuberculosis, some of them with co-existing tuberculosis of the larynx. According to the stages of disease and physical conditions of these patients they may be divided into three classes: 1st. Cases with moderate local disease and still good physical condition; 4. 2d. Cases with more extensive local disease, presence of cavity, but still in fair physical condition; 8. 3d. Cases with advanced local disease, cavities in both lungs; physical condition one of considerable impairment; 8.

In the first place, I am glad to say we have no fatalities to record. In one case only, when I had increased more rapidly in my dosage than I do now, there resulted a

most undesirable general and extensive local reaction lasting several days, and which cost the patient several pounds of flesh, and me very much anxiety. In three of the four cases of the first class there is no longer cough or expectoration, and in a number of the last sputum-specimens examined, bacilli were absent. Two of the three cases had not lost weight before admission, and have gained but little, one three pounds and the other six pounds, the third case has gained eleven pounds and is still gaining, being yet some fifteen pounds below his normal weight. The subjective symptoms in these three cases are entirely removed, locally some changes in percussion note and in respiratory sounds are still present, but are improved over conditions presented upon admission, and I cannot say that, locally, further changes would be necessary for a cure. The fourth case is one strongly predisposed by hereditary tendencies (the mother having recovered from pulmonary tuberculosis in this institution two years ago, is still well; the sister is a patient belonging to the second class presently to be described, and also here under treatment).

While some improvement is manifest, she still shows marked local reactions to small doses (6 milligr.), and a few bacilli are still in the sputum, this is, however, scant and occurs only after the injections. There has been but slight gain in weight, three pounds I believe.

Three of these cases are ladies, and I could not persuade them to face this audience for examination. The gentleman, a patient of Dr. Loomis, of New York, is here, and you can satisfy yourself in his case of his improvement, comparing his present condition with the records and diagrams of the charts made upon and since his admission. Dr. Ambler will show you in the laboratory the preserved slides from the sputum examinations, and you will be particularly interested in the changes which have occurred; the first slide made on admission is perfectly loaded with bacilli, and in so short a time as a month no sputum is longer available for examination; in the last specimens examined no bacilli were found.

We come now to the second class of eight cases, all of severe type, who have lost considerable flesh, and, with exception of one case, showed slight evening rise of temperature, none, however, can be considered fever patients. The most marked improvement in these cases is manifest in three of them, an example of which you will see in this gentleman, also one of Professor Loomis' patients. As you will note from this diagram of the chest, the shaded portions show the abnormal changes in the right upper, middle, and portion of the lower lobes, and the excavation is marked out showing its extent from the apex to the second rib. Gurgling existed in this cavity, crepitation down to the fifth rib, and harsh inspiration below; similar were the phenomena posterior. On the left side a very small cavity is marked out under the inner third of the clavicle, harsh and interrupted inspiratory sounds extended to the fifth rib, the expiration was prolonged, there were fine râles anterior and posterior; below the angle of the scapula, and below the fifth rib in front, the respiratory sounds were fairly good. This patient received to-day 35 milligr., and there has been neither general nor local reactions. You will note an entire absence of all moist sounds, and the cavity on the right side entirely dry, the respiratory sounds are much smoother than they were, and a superficial examination upon the right side, would, beyond the amphoric respiration over the cavity, detect little change from the normal. The cavity on the left side I can no longer demonstrate, although I have done so several times after his admission. The harsh, interrupted sounds have given place to a softer quality, only you note that the respiratory sounds all over this left portion which is marked out on the diagram, are feeble and less distinct. This patient has gained thirteen pounds in flesh, his expectoration is much reduced, but there are still a few bacilli present. His improvement corresponds with the next gentleman, whose condition both on admission and now, is as nearly identical as it well could be; both show similar located cavities, about the same auscultation-phenomena, and have followed a similar course in every respect, only this gentleman, who received 35 milligr. to day, shows a local reaction in his left lung where this morning every moist sound was absent, now you hear fine crepitation at the end of inspiration over the left side in front and back; you see from his temperature chart that he has no fever, his pulse runs a little higher only. Although bacilli have been absent in his slight expectoration for a week or ten days, I am almost confident that after this local reaction we shall find them in the specimen to be examined to-morrow. He too has gained twelve pounds in weight and says he never felt better in his life.

The next case is a patient of Dr. Conrad, of New York, whom you will also find to have made an equally good showing, both in the local and general symptoms, his cough is very much better indeed, and we have but few bacilli as compared with four weeks ago. Two other cases of this class are also improving, both locally and generally, and are within reach for your examination and comparison of records.

The rest are three ladies, who beg to be excused, one of them a sister of the case already mentioned; she has an organic heart lesion, but I have not observed any special disturbance of the circulation under the lymph; she has had an intercurrent attack of influenza, during which she lost a little in weight; previously she had been gaining, and her weight is now again increasing. Her local symptoms have also improved, but owing to the heart lesion, I have increased the doses with still more caution, and have reached only 8 milligr., to which she reacted locally three days ago, but not to-day.

Another lady patient with excavation of entire upper lobe did not react up to 2½ milligr., when quite unexpectedly upon increase of ½ milligr. a general reaction to 104° F., and intense local reaction followed. The temperature did not again reach the normal for four days, and now she still reacts locally to 2½ milligr., moist sounds are now absent except when local reactions occur, but over the cavity we now have dry creaking and rubbing sounds, which were not present on admission, nor for months before, while she was under my care. The sputum increased enormously after that severe reaction, and the number of bacilli and the elastic tissue were also much increased; now these symptoms are gradually subsiding. She lost ten pounds in weight in the first three weeks and has gained two pounds since. Her larynx, where reactions occurred in the early part of the treatment, is much better. Still another lady patient, making the eighth case of this class, is following a very satisfactory course.

Of the eight cases belonging to the third class, I desire to show you this gentleman, who was so much reduced when he arrived that we withheld the remedy for three or four weeks, during which we have been able to control his fever so that he now seldom reaches over 100° F., his appetite (with a gain of flesh of three pounds) also became better under the management.

For a month he has now been receiving the lymph, has arrived at 3 milligr., his general improvement continues, he having gained four and a half additional pounds. As attributable to the lymph I may mention less cough and expectoration, especially at night, during which he now has uninterrupted sleep. The microscopical changes are also favorable. Locally I can show you nothing of any importance, and perhaps the time and quantity of lymph used is not enough to produce any marked changes.

Two other cases, with extensive involvement of the larynx, have before and since taking the lymph shown much elevation of temperature with active local processes in the lungs. The lymph in these cases was discontinued, although it could not be said to have exerted an unfavorable influence, the doses were very small. They are now upon other methods of management, and the lymph is not to be used again until they are practically free from

fever. In the larynx we now use lactic-acid application; in one case considerable reduction of swelling occurred while the lymph was being given.

Two other cases have made fair progress, about like the first case shown you; three ladies are doing very nicely, indeed one who had previously been losing, has gained ten pounds in three weeks, another, also a losing one, has gained several pounds, and a third one is certainly holding her own.

This leaves another case, that of a gentleman, in which I cannot say that any change has occurred, one way or other; he had been losing before he came, and now holds his own, but beyond some general improvement, the lungs are the same, although distinct local reactions have occurred. He has only been treated for two weeks.

In one case of the first class the lymph was employed for its diagnostic value, the patient could furnish no expectoration; local and general reaction occurred from 2½ milligr., the temperature reaching 102° F. Sputum was present next day, and bacilli were found for the first time in great numbers.

Mr. President and Gentlemen, you have now been able to see what has been accomplished in these cases; some of the results are indeed very striking, and if I desired cheap notoriety I could undoubtedly gain it by discharging several of these patients as cured. But these cases would be worse for it in the end, and the reported cures in this country strike me as absurd and entirely premature. I am equally doubtful of reports of clearing up of large or small areas of tubercular infiltration, so that the percussion note became normal, and the bronchial breathing again vesicular and normal. How such changes should follow the employment of any means, no matter how specific their action might be, is to me incomprehensible. The lesions which might have been so changed can never have been tubercular, and the most I can believe is, that they were pneumonic processes or had been simulated by collapsed lung portions; but even then I am at a loss to understand how the lymph removed one or the other.

Disappearance of râles may again allow us to hear the previously masked vesicular respiration, and I have seen pneumonic processes clear up, but have never been able to procure normal conditions of the respiratory and percussion phenomena in tubercular deposits under any mode of treatment. The connective-tissue changes which occur in the process of a cure, must ever remain as the evidence of the previous disease, and our patients are none the less cured when these conditions have become permanent.

I am, therefore, for the present, unwilling to speak of absolute cures from the use of the lymph, which in the short time cannot be expected, and I have no case in which I can demonstrate that the tubercular tissue has been replaced by new lung.

The local improvements consist in clearing up of râles and ronchi to their entire disappearance; of connective-tissue change taking the place of the tubercular; in the absence of the râles from mucus and pus; and in freer and less obstructed respiration.

Before we had the new remedy, I accomplished all these things in this institution, and in looking over my records of a year ago, I find that on March 1, 1890, there was not a single case in this house which was not improving.

To those laboring outside of institutions, such results are perhaps more surprising, but I am satisfied that without the general management, painstaking carrying out of the climatic treatment, the regulation of diet and avoidance of over-exertion, our showing would have been less favorable.

Neither is the general improvement of these patients a new feature in my experience. There is, therefore, nothing characteristic by which we could see the effect of the remedy, unless it is the effect upon the expectoration. Changes for the better, at least in some cases, produced so promptly, even after one or two injections, I have never seen before, and I have prepared many thousands of slides for microscopical examinations. The rapid diminution in quantity is also striking, and with it the cough is reduced or entirely removed, but that occurred only in a minority.

I must, however, state that while I have seen all the local and general improvement in my previous experience, that under the lymph they appeared more promptly and more uniformly, in other words I feel that what has been accomplished in from four to ten weeks, would have taken perhaps as many months—but such matters are difficult to estimate.

My conclusions may be formulated as follows:

1st.—Professor Koch's remedy has a specific and selective effect upon tubercular tissues.

2d.—This effect is curative, indifferent, or injurious, depending upon the judicious or indiscriminative use of the remedy in the particular case, and in this respect acts the same as other powerful remedies.

3d.—Local reactions only are to be sought in its application for internal tubercular affections, and no increase of dose is permissible until we are reasonably sure that local reactions have ceased to occur to the previous dose in every part involved. More intense and general reactions and rapid increase of dosage are positively unnecessary, injurious, and may become dangerous.

4th.—That cases with acute softening and breaking down of tubercular deposits, are, as a rule, not suitable cases for the treatment.

5th.—That the therapeutic results from the remedy are such that we must accord it the position of a most valuable aid in the cure of tuberculosis; inasmuch, however, as inflammatory and other nutritive disturbances accompany the disease, which the lymph cannot influence, we are not justified in depending upon Koch's remedy only, but require now, as heretofore, to take advantage of every means at our command.

6th.—That the application of the remedy requires the greatest circumspection, and especially most constant control, not only by observations of pulse, respiration, and temperature, but also with the stethoscope, for observations of local changes in the lungs; and that for its successful use, the patient must be under personal observation of a competent medical practitioner with as much experience as possible.

7th.—That with such precaution the remedy can be administered in all stages of the disease without danger, but that the existing dangers from indiscriminate application are as real in early, as they are in advanced stages.

THE RELIEF OF PELVIC AND ABDOMINAL PAIN BY HOT COLON DOUCHES.

By W. E. FOREST, M.D.,

NEW YORK.

Case I.—Mrs. A——, sixty-five years of age, was attacked suddenly by an excruciating pain in the left loin over the region of the kidney and extending forward and downward toward the groin. She had had similar attacks some months before, for which I had treated her. The attacks were what are usually called "gravel, or kidney colic," and seemed due to the passage of calculi from kidney to bladder, through the ureter. The pain was continuous, but there was no tenderness on pressure. As the pain was intense, the first indication was to give relief, and for this purpose I ordered hot fomentations over the side, and gave one fourth grain of morphine hypodermically. She begged me, after fifteen minutes, to repeat the dose, as the pain did not subside, but I declined to do this. I left some opium suppositories, however, to be used through the night if necessary.

In the morning early the lady's daughter came to my office to report that her mother was getting worse. The injection of morphine had numbed the pain for a time,

but, so soon as the influence of the narcotic wore off, the pain began to manifest itself again, and now it was very bad. The opium suppositories were apparently useless, and the patient wished another injection of morphine. I was engaged at the time and could not well leave. It occurred to me that the ureter, lying as it does immediately behind and in contact with the colon on the left side, might be reached directly by hot applications within the colon. At this point a thin membrane only would interpose between the irritated tube and the local application of heat.

I instructed the patient's daughter to have her mother lie on her left side (partly on the face) with the hips a little elevated. Then the daughter was to very slowly inject into the colon, with a Davidson's syringe, water as hot as could be borne by the hand, a temperature not less than 110° F. I promised to see the patient as soon as I was at liberty, and give morphine if it should be needed. The injection of hot water to be not less than a quart in amount, and to be retained as long as possible. The object of the injection was not to move the bowels but to relieve the pain.

In an hour or so I called to see my patient; found her sleeping quietly. The daughter said that the first injection had been retained about ten minutes. It brought much relief from the pain. When expelled, hardened fæces had come away with it. Another hot injection had then been given, and, while giving it the patient had dropped off into a quiet sleep, the first natural sleep in more than twenty-four hours. That last injection, about one pint in amount, was still retained in the colon.

I left my patient sleeping, with orders that if the pain returned again she was to have another hot colon douche. Saw her in afternoon; there had been no return of the pain, but the side was quite sore. The second injection had never passed from the colon, but there had been a profuse discharge of urine, showing that the water had been absorbed from the colon and passed out of the system through the kidneys. Two more hot rectal, or rather colon, douches were given for the soreness, and the next day my patient was out of bed as active as ever. She passed a quantity of small uric-acid calculi. No stone of any size was seen.

Case II.—J. I——, thirty-two years of age, a commercial traveller; stopping at an hotel. While writing at a desk he was taken with a sudden, sharp pain over the region of the left kidney. The pain was so severe as to make him feel faint, and become sick at the stomach. He went to his room immediately and had been in continuous pain since the attack. I found him writhing on the bed, consumed with a raging thirst, but vomiting everything he drank. He threw up only what he drank, no bile nor mucus with it. He said he had never had a similar attack; was usually in good health. He had been a little dull latterly in body and mind, and he had noticed that the urine had been high cólored and scanty. The pain extended from the left kidney down to the groin. There was no rectal syringe at hand, and the pain was so great he could not wait for one to be procured, so I was compelled to give morphine hypodermically.

His brother had been sent for, and came while I was present. I explained the situation, and asked to be sent for if the pain returned. Four hours later I was summoned again. The attendant said that after the morphine injection the pain had been less severe for an hour or two, but the last two hours it had steadily increased, and had now become unbearable. The patient said that it was now as bad as when I first saw him; vomiting continued.

I prepared the hot colon injection, had my patient lie partly on his left side and face, and instructed the brother how to administer the douche. The fluid was pumped into the colon very slowly and retained. In a few minutes the groans ceased, and by the time a pint and a half had entered the colon the patient was quietly sleeping. In this case also the water was retained in the colon and absorbed into the system. In the evening, after another douche, my patient took the train for his home in Philadelphia.

Case III.—A lady, unmarried, aged thirty-one, an artist by profession; nervous temperament, subject to fainting attacks. I saw the case first while she was suffering from what she called "ovarian neuralgia." I obtained the following history: For the last two years she had been suffering with pain over the region of the left ovary at the time of the menstrual period; the pain was worse just before the flow, but continued during and after it. This trouble had grown steadily worse. During the last six months it had been especially bad, and for two weeks in each month she suffered excruciating pain in the left side in front, and radiating down the front of the thigh. This pain was paroxysmal in character and periodical. For instance, it would come on at about 1 P.M. and grow steadily worse until evening, when she would be almost beside herself with pain. By seven o'clock the pain would begin to die out; then a period of comparative ease until one o'clock in the morning, when the pain would return with all its force and last until daylight. There was marked tenderness over the left ovary during the time that the pain was present. This suffering had continued for a week, and would last for a week more at least. She was conscious of some pain all the time throughout the whole month.

She had been under the care of a physician, but he had not been able to give her relief except by the use of morphine; this drug prostrated her so that she could not use it. She had taken antipyrine and quinine with little or no effect. Had taken three doses of antipyrine that afternoon, together with two little pellets of something she did not know the name of, but it was said to be a specific for neuralgic pains. None of these remedies had relieved her in the least: would I do something to help her, as her doctor was out of town, and she could not stand the pain much longer?

I explained that so far as drugs went I had nothing to suggest different from what she had already tried. Morphine she could not take, and the others had failed. I suggested that she might try the hot colon douches; while I had never tried it in just such a case as hers, it seemed as if they might relieve the pain. At least it was the "forlorn hope," as there was no other remedy that I could suggest. The sufferer gladly consented to try this treatment, and her mother was instructed in the method of using it. The method, in brief, was to have the patient lie partly on the left side and face, left arm behind the back, and hips elevated on a pillow, the water to be forced in very slowly and retained as long as possible.

The mother carried out my instructions carefully, with the result that in fifteen minutes the pain had mostly subsided. After resting for half an hour the patient dressed and went to dinner, and ate quite heartily. This was contrary to orders. A few minutes after dinner she had a fainting attack or collapse that alarmed her mother very much. Whether this was due to the antipyrine taken during the afternoon, or to the colon flushing followed by the exertion of dressing, I cannot say. To avoid any trouble of this kind again, I ordered a stimulant before using the flushing, and rest in bed for an hour or two after it.

While the pain had been relieved for the time being, it was not certain that the relief was due to the hot flushing, as the drugs taken during the day might have at last taken effect. Again, the pain usually grew less in the evening, though not so rapidly and completely as it had after the douche.

However, the attack was due again at 1 A.M., when there would be an opportunity to test the new treatment. I ordered a hot flushing to be taken that night a half hour before the pain was due, and again the next day at noon, before the afternoon pain was expected. If the pain became severe the flushing was to be repeated during the attack. The following day I learned that the

flushing given at midnight almost checked the expected attack. There was a slight manifestation of the pain, but not enough to prevent sleep. There was no further pain after this. The patient took a hot flushing every night for the effect on the ovary, but was soon about the house, though her strength returned very slowly. She stated that her system seemed shattered by her sufferings. There was still soreness on the left side in the ovarian region; but day by day this became better, in spite of the fact that she went to her studio and did some work.

Ten days after the cessation of the menstrual flow she came to my office with her mother. It was important to know, on account of a proposed journey, whether there was any local trouble in the ovarian region to account for these attacks, and to see what the hopes of a permanent cure might be. On examination I found a hard, round swelling in the left broad ligament, close up to the uterus. This was exquisitely tender to the touch, not movable, and evidently, partly, at least, inflammatory in character. It was so tender that I could not determine at that time how much the ovary was involved. As my patient was going out of town, I could only suggest a blister over the region of the trouble and the use of the hot colon douche each night. Her great fear was the return of the pain at the next menstrual period.

On her return to the city, some weeks later, I learned that she had put on the blister and had remained quiet during the rest of a month. She had taken the hot colon douche every night. The menstrual flow had come on at the proper time without pain; had continued free from pain for three days; on the third day she had had great mental disturbance and trouble, an emotional cyclone, due to family matters, and the next morning the pain returned. It was relieved by the hot rectal douche again, but had tended to return periodically each morning, showing that it was neuralgic in character and was started this time by the mental disturbance.

On examination I found the swelling in the left broad ligament much reduced in size and the tenderness almost gone. I am now treating the case with the daily use of the hot rectal douche, and twice a week the application of galvanism to the swelling in the left ligament—the positive electrode behind the ligament, in the vagina, the negative on the abdomen. In addition she has the foot of her bed elevated eight inches at night, and she is to lie down for an hour in the morning and an hour in the afternoon, with the hips elevated on pillows. This is to relieve pelvic congestion by the influence of gravity, and to stretch the shortened left ligament of the womb.

Since writing the above, a third period has passed almost without pain. The suffering at former periods seems now like a dreadful nightmare.

Case IV.—Mrs. S——, thirty-four years of age. Has had two children, the last eight years ago. She was taken suddenly in the night with great pain in the uterine region. The pain was continuous and accompanied with soreness and tenderness to the touch. It seemed to her like "inflammation of the womb." Her husband used hot applications an hour without the least relief, when the patient remembered that I had once instructed her as to the relief of pain by hot rectal douches. Her husband administered one, and the pain disappeared in fifteen minutes. There was marked soreness over the supra-pubic region for a day or two, but no return of the pain. I did not personally see this case, but obtained the details from the husband of the lady. As near as I could learn, the pain must have originated from the vaginal injection having gone astray, some of the liquid possibly entering the uterus and Fallopian tubes. Every practitioner knows that such accidents often cause serious results.

Case V.—Miss M. F——, thirty years of age; tall, thin, anæmic young woman. Has doctored for many months, but with little or no benefit. Complains of three things, namely, great debility; great pain at her menstrual period, before and during it; and pains in urinating. This latter trouble is a recent one; the pain at her menstrual period she has had for years, but of late it has grown worse. Of course she is of badly constipated habit. For the relief of the pain at the menstrual period, which was about due, I advised the hot rectal douche every night, commencing at once. For anæmia I gave the elix. peptonate of iron.

Three days after the menstrual period she reported again, and stated that she had but very little pain, less than in many months. The hot rectal douche gave relief at once. It had had no bad effect on the flow—had certainly not increased it. She was feeling much stronger than at her last visit, as she had not been prostrated as usual by her period, and the tonic had had an opportunity to strengthen her. She expressed herself as delighted with the effect of the hot colon douche, and said that she should use it during every menstrual period. Has reported since, and there is great improvement. Is free from pains of all kinds, and has a good color in cheeks and lips. Continues the douches.

Case VI.—Woman, aged sixty two. Was taken with a steady pain a little to the right of the epigastric region. She was slightly jaundiced. There was soreness to the touch when deep pressure was made. She vomited occasionally; has had such attacks before. From the history and location of the pain I judged it to be due to a biliary calculus. The patient had been under treatment two days when I saw her. As she was constipated from the narcotics she had taken, I ordered the colon flushed with hot salt water. When this had been done twice, the pain in the epigastric region ceased, and there was no more trouble from the gall-stone. The vomiting ceased and the appetite returned.

The histories of the above cases have been selected out of many others, because they illustrate different types of abdominal and pelvic pain that can be relieved by hot colon douches.

In Cases I. and II. we have the typical kidney colic, one case in an aged female, the other in a young male. Both cases were promptly relieved by the treatment, even when morphine had failed to bring permanent relief. In Case I. the attack was apparently shortened, as I had twice treated her previously for the same condition, and each time it had taken three days before the soreness and pain had ceased. In this last attack it ended much more quickly.

The *rationale* of the treatment in this class of cases is simple. The hot water in the colon comes into nearly direct contact with the irritated and contracted ureter, through which we suppose a calculus to be passing. Now the effect of the heat on living tissues we know to be threefold: 1. It is a sedative to the painful nerves; 2, it relaxes the spasm of muscular tissues; 3, it relieves congestion. Hence our application tended to relax the ureter and allow the stone to pass on to the bladder, and at the same time the pain and congestion were relieved, and inflammation prevented.

A further influence of the treatment is due to the absorption of more or less of the water from the colon. This relieves the thirst without taxing the disturbed stomach, and as the water is eliminated by the kidneys, it washes them and the ureters with a bland liquid. In all these cases I would recommend, after a thorough douching of the colon with the hot water, the injection of a pint of hot water to be retained. This latter will always be accomplished if the patient, after receiving the liquid, lies quietly on the face or side, with the hips on a pillow. Hot mineral waters, saline or lithiated, may be used, if desired, for this latter purpose. The question arises whether pain in the right kidney and ureter will be relieved as well as on the left side? According to my experience, it will, if the douching or flushing be thoroughly done.

I have demonstrated that the hot water can be made to pass throughout the length of the colon to its end on the right side. Here it comes in intimate relation with the right kidney and its accessories.

In Case III.—ovarian neuralgia and inflammation of the broad ligament—we have a similar *rationale* for the relief of pain as in the preceding cases. We need hardly be reminded that the colon is in close contact with the uterus, ligaments, and ovaries. It was once the fashion (after Simon) for the surgeon to insert the hand and forearm into the female rectum for diagnostic purposes. With the hand in the colon the uterus and ovaries are in its grasp, and can be mapped out and examined with the greatest ease, a thin membrane only separating the hand from these organs.

Now the hot water in the colon comes into as direct contact with these organs as did the hand of the surgeon in the same position. In the hot colon flushing the uterus and appendages are immersed, so to speak, in a hot bath.

The effect of heat in relieving congestion, soothing painful nerves, and relaxing spasm, need only be mentioned here. It explains the relief experienced in this case when narcotics and anodynes had failed.

A moment's consideration will show how much more effective a hot colon douche should be in such cases than the usual hot vaginal douche. In the colon douche the hot liquid is applied to, and retained on, nearly all sides of the disturbed organs. In the vaginal douche it is applied intermittingly at one end of the organ. There is as much difference between the effect of the two methods as there is between a warm sponge-bath on the one hand, and a continued hot tub-bath on the other, when the soothing and relaxing effects of a hot bath are desired.

Certainly, in the case related, the pain was relieved by the hot colon douche, when all other measures, such as hot external applications, hot vaginal douches, and the internal use of anodynes, antispasmodics, and even narcotics, had entirely failed.

In Case IV. the patient felt that she had been saved an attack of uterine inflammation by a prompt resort to the hot colon flushing. One thing, at least, was certain, she had been promptly relieved from severe pelvic pain by this treatment.

The next case (V.)—painful menstruation—represents a very large class of sufferers. We would be safe in saying that in this country, among the more intelligent classes, the young women who are free from suffering at the menstrual period are the exception rather than the rule. How great this suffering may be in many cases, only the sufferer and the physician can understand. Not long ago a young married woman told me that for three days at the beginning of each menstrual period she remained day and night in the kneeling posture, as it was only in that position that she could endure the awful agony that was hers each month. If she slept at all during this time it was when, completely exhausted, still kneeling, she rested her head on a pillow in a chair. This is an unusually severe example of a large class of sufferers. Most of these cases, occurring as they do in young unmarried women, will not, nor should they, submit to local treatment by a physican. The best the physician can do in such cases is to prescribe narcotics or antispasmodics, to be used at the time of pain for a temporary effect. These drugs will be used a short time, and then the patient either gives them up, or becomes a victim of the drug itself.

If the physician's advice is not sought through motives of delicacy, the usual home remedy is alcoholic stimulants of some kind, usually hot gin. The quantity drank by some of the sufferers at such times is almost past belief.

The substitute I have to offer in these cases for the narcotics, anodynes, and stimulants, is the hot colon douche. It has absolutely no drawbacks or injurious effects that I have discovered, when properly used, but, on the contrary, has a decidedly tonic and curative influence on the conditions that cause the suffering.

In the majority of these cases there is an undeveloped uterus, often bent upon itself, with sensitive nerves and spasmodically contracted blood-vessels. The influence of the heat upon such conditions is beneficial. Upon the menstrual flow itself, the hot colon douche, used during the flow, has a good effect. If the flow be excessive, the douche lessens it; if scant, it increases it; in short, it regulates the discharge and makes it normal.

In Case VI. the hot colon douche relieved what seemed to be an attack of hepatic colic. This case is mentioned to show that the influence of the colon douche is not confined to the pelvis but extends to the upper part of the abdominal cavity as well. The treatment is particularly appropriate in these cases, as it has long been known that large rectal injections relieve jaundice.

In cases of pelvic pain following a miscarriage, where inflammation seems to threaten, and an immediate recourse to morphine seems indicated, I have found the hot colon douche to relieve the pain almost immediately, and to have a very beneficial effect on the womb and accessories. The hot douche, besides relieving the pain, elevates the organs into place, lessens the congestion, and favors the return of the womb to its natural size. I have the hot colon douche employed daily in these cases.

The foregoing cases are types of the class of cases that I have found benefited by the use of the hot colon douche. I trust that others may give this method of relieving pain in the pelvic and abdominal cavities a fair and impartial trial, so that by an extended series of observations the real merits of the method, if it have any, may be established. There may be cases that will not be relieved by this treatment, but so far it has not failed in my hands. Speaking from my own experience, I feel sure that the hot colon douche will have a quite important position in the therapeutics of the pelvic and abdominal cavities.

It may be well to recapitulate the proper method of using the remedy, for even in so simple a matter as this, there is a right and wrong method. The patient is to lie on the left side, with the left arm behind the back, legs partly drawn up, hips on a pillow or folded blanket, the chest low; in short, in the Sims position. This position allows the patient to administer the injection by the use of the right hand. It is always better, however, to have an attendant administer the injection if possible. If an attendant gives it, the patient might better lie directly on the face with a folded blanket or pillow under the thighs. The water is to be of a temperature not more than 112° F. nor less than 106° F. From a pint to two quarts of the hot liquid should be slowly injected, and retained for a few minutes. If there are fæces in the rectum, as is usually the case, the injection and the fæces will be quickly ejected. Then at once have the patient lie down and repeat the hot injection, using a larger quantity the second time. This will be retained longer and will almost certainly relieve the pain. When this is expelled the patient should lie down again, and about a pint of hot water should be injected; this will be retained if the patient lies quiet, and it will be discharged from the system through the kidneys. If the patient is at all weak, it is wise to administer a stimulant before giving the injections.

In another article will be given the results of experiments to determine the effect on healthy and diseased kidneys of hot colon douches retained and absorbed.

39½ Washington Square.

The Influenza in Austria.—The Austrian Minister of the Interior has published a report of the epidemic of influenza in that country during 1889 and 1890. The disease appeared in November, 1889, and continued until the end of January, or in some places even through March, 1890. The total number of persons applying for medical relief during that time was 930,478, but there were many other cases which were not seen by any physician, and consequently were not reported to the authorities. In Vienna the number of reported cases was 42,794, and of deaths, 338. The total number of deaths in Austria directly attributable to the influenza was 2,823.

THE THEORETICALLY IDEAL REMEDY FOR PULMONARY PHTHISIS.

By WILLIAM MOOR, M.D.,

NEW YORK.

LITTLE attention, if any at all, has been paid on this side of the Atlantic to Professor Liebreich's new plan of treating tuberculosis. Our physicians, who so readily resorted to a therapeutical agent the composition of which was a mystery to them—I refer to the famous "lymph"—did not even make an attempt to give another remedy, so easily obtainable and comparatively harmless, a trial. At the séance of the Berliner medicinische Gesellschaft, held on February 25, 1891, Professor Oscar Liebreich, the eminent scientist to whom, among various pharmacological discoveries, we owe chloral hydrate, laid before the present members of this society the results of the researches and experiments he had made with respect to cantharidin. Though his investigations were not yet completed, he did not want to hold in suspense any longer those that were informed about certain experiments upon which they had founded great hopes. On experimenting upon animals, he had found that the cause of their death from acute cantharidin poisoning was dyspnœa, due to a slight transudation of blood-serum from the lung capillaries. There occurred no change in the blood-pressure and in the action of the heart, as was shown by the kymograph. Liebreich, therefore, concluded that cantharidin, if injected hypodermically, gives rise to a peculiar modification of the lung capillaries, the nature of which we cannot explain, causing an exudation of serum. It is also to be expected that capillaries, which are pathologically irritated, would yield more quickly to the influence of cantharidin than normal capillaries. Professor Liebreich, on the basis of such observations and reasoning, commenced his clinical experiments upon patients affected with laryngeal and pulmonary phthisis. Simultaneously, a number of tuberculous patients were treated with injections of cantharidin, by Professor B. Fränkel, Dr. Landgraf, and Dr. Heymann. Liebreich's supposition was that the exuded serum may contribute to the nourishment of the diseased tissues, also that the serum may exert its bactericidal influence upon the pathogenic microorganisms. The results obtained by this new method of treatment were remarkable.

I desire now to bring forward my own views as to the action of cantharidin. I consider cantharidin to be the ideal remedy for pulmonary phthisis; but from a standpoint which is entirely different from Professor Liebreich's explanation of the "modus curandi" of cantharidin. Presently I shall leave aside its possible effect upon tubercular ulcers of the larynx, but shall consider chiefly its therapeutical relation to pulmonary consumption.

It is a well-known fact that pulmonary phthisis seldom follows an attack of acute lobar pneumonia, and that lobar pneumonia rarely supervenes upon pulmonary phthisis. In fact, I do not consider it sufficiently proved that the pneumonia observed in phthisical patients is really the genuine pneumonia, the pneumococcus pneumonia. It seems to me much more probable that these cases are of the lobular, catarrhal type, or else that the signs attributed to lobar pneumonia are due to a temporary caseous infiltration with subsequent resorption of the products of infiltration. Only recently,[1] during a discussion on "tuberculin," Virchow stated that occasionally a genuine pneumonia may attack a phthisical subject, but this is an occurrence of extraordinary rarity. If a real pneumococcus pneumonia is apt to invade a phthisical lung, it would be expected that we should find in a corresponding frequency, at the autopsies of persons deceased from acute lobar pneumonia, tuberculous changes in the lungs. In studying various statistics I have met with but very few instances of tubercular lesions having been found in the lungs of subjects that had died from lobar pneumonia. At the Roosevelt Hospital, for instance, during the years 1885, 1886, and 1887, there are reported seventy-seven deaths from lobar pneumonia; phthisis is mentioned as a complication in but one case. During the same period, out of one hundred and eight subjects deceased from pulmonary phthisis, but one is reported as having had as a complication lobar pneumonia. Dr. Chelmonsky,[1] of Warsaw, on studying the autopsy reports in the "prosectorium" of the I. therapeutical clinic of that city, did not find a single case of a person deceased from acute lobar pneumonia, in whom were noticed tuberculous changes in the lungs.

There evidently exists a decided antagonism between the pneumococcus and the bacillus tuberculosis. It is considered an established fact that certain species of bacteria are antagonistic to other species of germs. According to my own idea, such an antagonism can be of a twofold character: it may be either chemical or dynamical. Some bacteria are antagonistic to each other outside of the animal organism on account of their metabolism products, whereas other bacteria prevent the growth and multiplication of other species only within the human or animal organism. This latter phenomenon I call "dynamic antagonism of bacteria" in distinction to the chemical antagonism, which exists outside the body and depends on the ptomaïnes and other products of metabolism. Applying this to our subject proper, we may say that the pneumococcus and the bacillus tuberculosis are dynamic antagonists. Which is the chief dynamical characteristic of a pneumococcus invasion of the lungs? Is it not the transudation of blood-serum from the pulmonary capillaries? Therefore, if we can find some mineral, vegetable, or animal substance which is capable of producing a transudation of serum from the lung capillaries, such a substance could be considered a dynamical substitute of the pneumococcus.

I think, Liebreich has found such a substance in cantharidin, and has therefore given us the theoretically ideal remedy for pulmonary consumption. The practical results so far obtained with this therapeutical agent seem to confirm its theoretical importance. It is strongly to be wished that those of our physicians who have ample opportunity to carry out the clinical experiments with respect to the therapeutic effects of cantharidin, should do so without delay. Its use—as compared to Koch's "lymph"—is harmless.

The solution for injection is prepared in the following manner:

Take 0.20 gramme of cantharidin and 0.40 gramme of hydrate of potassium, or 0.30 gramme of hydrate of sodium. Weigh exactly and add 20 ccm. of distilled water. Warm in a water bath until a clear solution is obtained. While the warmth is maintained, add gradually distilled water until the solution becomes cold, then add cold distilled water until the whole amounts to exactly one litre.

One cubic centimetre of this solution contains 0.0002 gramme of cantharidin. The normal dose for injection is 0.0001 or 0.0002 gramme, but it is probably better to commence with ½ decimilligramme, *i.e.*, ½ of a cubic centimetre of the solution. The maximum dose is 0.0004 gramme. The injections should not be made daily, but alternately on every other day. Renal disease is a contra-indication to this treatment. If an injection is followed by diarrhœa, strangury, or albuminuria, the injections have to be interrupted for some time; from five to ten drops of tincture of opium will promptly allay such symptoms. The most suitable place for injection is between the two shoulder-blades. In injecting, the ordinary rules and precautions are to be observed.

143 WEST FORTY-FIRST STREET.

[1] Séance of the "Berliner medicinische Gesellschaft," February 2, 1891.

Four Children at a Birth.—A poor woman in London recently gave birth to three girls and a boy. Two of the children were still-born and two lived for twelve hours after birth.

[1] Deutsche medicinische Wochenschrift, 1891, p. 496.

Clinical Department.

A CASE OF ANTHRAX — EXCISION OF INFECTED TISSUE—RECOVERY.

By ALEXANDER B. JOHNSON, M.D.,
NEW YORK

WITH A BACTERIOLOGICAL REPORT OF THE CASE.
By G. L. NICHOLAS, M.D.,
NEW YORK.

THE following case seems to the writer worth recording on account of its rarity and of the fact that the diagnosis was proven bacteriologically. The clinical history is as follows:

O. B— , aged forty-one, a wool-sorter by occupation, employed in a large carpet manufactory in New York City, presented himself at the Out-patient Department of Roosevelt Hospital on January 4, 1890. He stated that during the night of January 1st he had been awakened by a stinging pain in his right cheek. In the morning he observed a painful, tender, swollen, red spot in the middle of his cheek, and believed that he had been bitten by some insect, presumably by a black spider. The pain and swelling continued and slowly increased, without any constitutional disturbance, until January 4th, when he came to the hospital for treatment.

Examination showed a black, slightly depressed scab, about half an inch in diameter, at the level, and one and one-half inch in front, of the lobule of the right ear. This scab was surrounded by an areola of small vesicles which were filled with pink serum, and these by an indurated red margin of inflamed skin about half an inch in width. The entire right side of the face was swollen moderately, and the swelling extended downward for some distance on the neck. The patient expressed himself as feeling perfectly well, except for the pain and discomfort in his face, which were not very great.

Inquiry elicited the fact that he had recently been occupied in handling wool imported from Spain. The appearance of the sore led to a suspicion of anthrax, and a portion of the scab, together with some drops of bloody, turbid serum from beneath it, and a little of the necrotic tissue which formed the base of the ulcer were scraped away with a sterilized sharp spoon, introduced into a sterilized test-tube, and sent to the Pathological Laboratory of the College of Physicians and Surgeons for examination. A report was made in a few minutes that rod-shaped bacteria, resembling those of anthrax, were to be seen in the specimens examined. The patient's face was cleaned and disinfected, in the ordinary manner, with soap and water, turpentine, alcohol, ether, and bichloride solution (1 to 1000). A solution of cocaine was introduced into the skin surrounding the pustule, which was then cut out, including a border of about half an inch of apparently healthy tissue. The raw surface was repeatedly swabbed with a solution of zinc chloride, forty grains to one ounce, and the edges were partly drawn together by means of two catgut sutures. After twenty four hours the swelling had for the most part disappeared from the patient's face. After the separation of the superficial sloughs, caused by the zinc chloride, the wound healed rapidly and the patient had no further trouble.

Biological and Morphological Analysis of Dr. Johnson's Case of Anthrax.—Cover-glass preparations made directly from the ulcer showed, among others, bacteria with all the morphological characters of the bacillus anthracis. From discharge of ulcer sowings were made upon an agar plate. In the course of four days this plate developed forty two colonies, presenting the appearances characteristic of the anthrax bacillus. Sections of the original ulcers, stained by Gram's method, showed very great numbers of bacilli. They were sharply confined to the immediate neighborhood of the ulcer, affecting its margin rather than centre. Two white mice, inoculated with the discharge and fragments of scrapings from the ulcer, died in thirty-six hours. The autopsies showed all the lesions characteristic of anthrax. Cover-glass preparations, from the blood in the heart, liver, and spleen of these mice showed very many bacilli similar to those obtained directly from the ulcer, and occurring in sections of ulcer. Gelatine plates from the blood of the liver, spleen, and heart of the mice rapidly developed innumerable colonies, having the characters belonging to anthrax. Pure cultures from these colonies grew in a characteristic way, and the bacilli presented all the morphological characters of anthrax bacilli.

A third mouse, inoculated from this last set of cultures, died in thirty-six hours. The autopsy showed the lesions of anthrax, and cover-glasses from the blood of the liver, spleen, and heart presented bacilli, the same as in the preceding case, while the cultures grew as before.

Diagnosis—anthrax.

INJECTIONS IN SYPHILIS, AND A HANDY METHOD FOR CURING SYPHILITIC PALMAR PSORIASIS.

By J. HUNTER WELLS, M.D.,
PORTLAND, ORE.

HAVING noticed with interest an editorial a few weeks ago on the injection treatment of syphilis, and knowing that it is not yet a favorite method in this country, I am led to report a case which has come under my observation.

It presented a fairly characteristic syphilitic ulcer of the tongue, about the size of a fifty-cent piece, though irregular in outline. The appearance was quite serious, a suspicion of cancer being entertained, but the edges and base were of a specific type, though no specific history at all could be obtained. The pharynx and uvula, with a portion of the soft palate, showed ulcerative change, leaving little doubt as to the condition. As the patient could hardly talk, and could only take liquid and soft diet, and was rapidly losing flesh, it became necessary to do something active, so I put him under the injection treatment, which I learned from Professor Hebra, of Vienna. The solution I used was:

℞.	Hydrarg. bichlorid.	grs. xv.
	Sodium chlorid	grs. xc.
	Aqua dest.	ʒ iv.

Of this I injected deep into the buttock, fifteen minims, once a day. At the end of the tenth day a decided improvement was manifest, which continued up to the twentieth injection, the last ones being given every few days instead of every day, until all traces but a cicatrix with raised edges, were gone.

Several weeks after the patient again presented himself as bad as ever. He had gone back to his inveterate smoking, and had been doing nothing in the way of medication. I gave about thirty more injections, and then stopped them and gave iodide of potassium, which he took for some time, and is now apparently nearly cured of the trouble, two months having elapsed with no recurrence of symptoms. It might be said that iodide of potassium given at first would have acted equally well, but I am inclined to doubt it, for it is well known that potassium, in specific affections, acts much better after mercury has been administered.

A few other cases of primary syphilis, in which the injections were used, presented no unusual features. One, however, had palmar psoriasis, which was treated locally by fumigation with calomel, to which I wish to call special attention, it being, so far as I can learn, an original method with Dr. G. M. Wells, of this city, and entirely satisfactory in quickly curing every case in which it was tried.

A hole large enough to admit the hand is cut in an ordinary hat-box, a half to one drachm of calomel is put underneath on a tripod, and a spirit-lamp produces the fumes, which form a deposit on the hand.

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & Co., Nos. 56 and 58 Lafayette Place.

New York, May 23, 1891.

THE MEDICAL PROFESSION IN JAPAN.

A RECENT number of the *Sei-I-Kwai Medical Journal* contains an interesting article on the present position of medical practitioners in Japan, in which we see that our confrères in those distant islands have not been behind their fellow-countrymen in the earnest efforts which all have been making to bring their country into the first rank among the civilized nations of the earth.

The writer of the article to which we refer divides the medical profession in Japan into four classes, viz., 1. *Kanpô-ka*, or Chinese school; 2. *Kan-ran settû-ka*, or China-Dutch school; 3. *Seiyo-ka*, or European school; and 4, *Senmon-ka*, or specialists.

Those included under the first head, the Chinese physicians, are the most numerous, comprising perhaps one-half of the entire number of practitioners in the empire, but their number is rapidly decreasing since the new law in regard to medical licenses prevents any accession to their ranks. Most of them are of the older generation, few being under fifty years of age. They are absolutely guiltless of any medical learning, all the knowledge that they possess having been gathered by the perusal of the absurd medical treatises of the Chinese. Their medicines consist in certain herbs and the bark and roots of various plants, which are always given in the form of decoction; they occasionally also employ a few mineral preparations.

In the so-called China-Dutch school there are now about ten thousand members, or half as many as in the Chinese school. They gathered most of their knowledge in the same way as those of the first class mentioned, but they supplemented it by the study of some old works on medicine which had been imperfectly translated from the Dutch into Japanese. They treat disease much in the same way as the Chinese practitioners, but also use drugs of the European Pharmacopœias, such as opium, calomel, iron, soda, asafœtida, aloes, santonine, etc. They are, as a class, liberal in their views, and the progress made by European medicine in Japan is due in no small measure to the encouragement offered by these practitioners, who, though unable to acquire the new knowledge themselves, recognized its advantages and did what they could to promote its spread among those of the younger generation. Some, indeed, did not shrink from the task of learning what was now presented to them by Western physicians; they studied the new science, adopted the new practice, and are now among the most learned and respected of the modern school in Japan.

The number of physicians who belong to the European school is about five thousand, but this number is constantly increasing in proportion as that of the former classes is diminishing. The practitioners included under this head are those who have been educated either abroad or in their native schools which are conducted under government inspection and are provided with thoroughly competent instructors. The chairs in the university and in the various medical colleges are occupied by the members of this class, and all the important positions, both public and private, including those in the medical departments of the army and navy, are held by them.

In the fourth class are the specialists. Some of these are competent physicians, educated in the new school, and practising a legitimate specialty, such as diseases of the eye, dentistry, obstetrics, or the like, but the greater number is made up of ignorant quacks, such as flourished in former days before scientific medicine had gained a foothold in Japan.

The medical practitioners of the new school in Japan at the present day are a superior class of men; they are intelligent, energetic, and enthusiastic; they regard themselves in the light of missionaries, and shrink from no task which they believe will forward the progress of rational medicine in their country. They have established medical societies and medical journals, and have even created a national medical associaton, the first meeting of which was held in Tokio in April of last year. They have passed from the stage of pupillage and now control themselves the course of medicine in their country, being no longer dependent upon foreigners either in their hospitals or in their university chairs. Even *Sei-I-Kwai Medical Journal*, to which we are indebted for most of the information here presented, has no longer an American editor, its English department being now conducted (and most creditably conducted, we may add) entirely by native writers. In contemplating the admirable progress made in this most interesting country, we may becomingly indulge in a little modest self-complacency, since American medicine has had no insignificant part in promoting it.

CURE BY MIRACLE.

THE age of miracles was popularly supposed to have terminated some few centuries ago, but such is not the case, at least so far as St. Louis is concerned. The following is a brief report of one of the latest and best from that city: "For five years Sister Mary Philomena had suffered from an abscess that threatened permanent injury to the brain. Partial blindness resulted. On Tuesday, Sister Baptista visited the sick nun, and offered up a Novena in private prayer. She also gave her a relic. In a paroxysm of pain, Wednesday night, Sister Philomena swallowed the relic. When she awoke, she felt a strange pricking above her eye. Lifting her hand to the spot she felt a needle, which she grasped and pulled out, and, transfixed on its point, was the relic that the sister swallowed. The truth of the marvellous miracle," the account goes on to say, "is vouched for by Dr. Alt and the Mother-Superior." We confess ourselves glad that the transfixed relic part of the story has been vouched for, else 'twere hard to

credit. Should this fall under the eye of Dr. Alt, we sincerely hope he will send further details of the relic's progress from the stomach to the eye. That the needle should have effected its exit through the orbit is not so wonderful, since we are told that it is easier for a needle to pass through the eye than it is for a rich man. The probable interpretation of this being, that if a lady gets a rich man in her eye it is harder for him to escape than it would be for a needle similarly situated. Dr. Oliver W. Holmes's hypothesis of the total depravity of inanimate objects can alone account for the perversity of the needle in remaining in the lady's eye until it was furnished with a relic to transfix. Many instances have been placed on record of particles of glass passing through the eye, but investigation has almost always brought out the history of a man with an eye-glass, or a man with a glass eye, as party of the first part, and a man with a fist, and possessing a knowledge of its use, as party of the second. Miracles are always interesting, and if Dr. Alt knows of other instances equal to the one related, it is to be hoped he will not withhold them.

THE RARITY OF VENEREAL DISEASES AMONG THE LABORING CLASSES OF PARIS.

Parisians, whether of the upper or lower walks, have never been celebrated for the purity of their lives, and it is a common impression, fostered, if not created, by writers of the Zola type, that nowhere is sexual virtue less esteemed than in the French capital. It is possible, however, that French novelists have been less realistic than they would lead us to believe, and that there is really no more vice there than in any other city. Such a view is strengthened by some statistics recently adduced by Dr. L. Fiaux concerning the prevalence of venereal disease among the working population of Paris. In his capacity of surgeon to a railroad company he was called upon to examine a great many laborers and artisans who had applied for employment on the road. He gives the results of these examinations, as regards the existence of venereal disease, in the *Gazette des Hôpitaux*, November 18, 1891. Between September 1, 1888, and December 31, 1890, he examined 3,240 men in the prime of life, two-thirds of them being unmarried and aged from twenty to forty years, the other third being married and aged from twenty-five upward. Out of the entire number Dr. Fiaux found but five suffering from gonorrhœa and from simple ulcer of the penis accompanied with a suppurating bubo in the groin. Not one of those examined was syphilitic or had apparently ever been so.

This is indeed a remarkable showing, but we are inclined to believe that it is an exceptional one, and that a more extended series of examinations would show that the proportion of venereal diseases is far higher than the author would have us imagine. It would be interesting to compare these results with those of similar examinations in other cities and countries.

A NEW SUBSTITUTE FOR QUININE.

We have become so accustomed to read every week or so of a new coal-tar derivative rival of quinine that it is really refreshing to hear of a vegetable substitute for this drug, and one is predisposed in its favor for the simple reason that it is not the product of some chemical laboratory.

The name of this new remedy—new, that is, to the Western World—is halviva, a substance prepared from kreat, an East Indian plant. Dr. G. Yeates Hunter, formerly Brigade Surgeon in the Bombay Army, describes it in the *British Medical Journal* of March 7, 1891, and says that it has long been in use in India as a remedy for malaria, and as a tonic and restorative. It possesses all the antimalarial properties of quinine, without apparently any of its disadvantages. It produces none of the head symptoms or nervous irritability so often seen after the long-continued use of quinine, while its therapeutic action is much more reliable. Again, kreat may be taken with great advantage, Dr. Hunter maintains, as a prophylactic, whilst the injudicious use of quinine for that purpose in malarial countries has resulted, in many instances, in marked deterioration of health. As a tonic, the writer declares, halviva is unrivalled, being a pure, clean bitter, without astringency, and acting as a gentle laxative by increasing the secretion of bile. It is of great service in indigestion accompanied by constipation, and is also useful in gouty dyspepsia.

Dr. Hunter does not speak of its possessing any antipyretic properties, and it is probable that he refers to its use in the chronic forms of malarial poisoning rather than as a remedy for acute paludal fevers. So it would appear that we are not, after all, to be freed from the tyranny of the chemical laboratory, and phenylacetamide, dimethyloxychinizin, para acet-phenetidin, tetrahydroparamethyloxychinoline (or tetrahydroparachinanisol), and other such like simples must yet be prescribed by the fever-fighter who puts not his faith in cold water.

THE DANGER FROM ARSENIC.

The condition of our esteemed and interesting colleagues of Massachusetts is again exciting anxiety and alarm. Having passed safely through disquieting exacerbations of homœopathy, mind-cure, Ibsenism, and psychical research, the profession has been brought up sharply with an attack of arseniophobia.

The deaths in Massachusetts from suicide by arsenic are on an alarming increase. The mortality from arsenic in 1887 was 8.8 per 10,000, or nearly 0.1 per cent. of the total mortality. One physician, Dr. Putnam, reports twenty-six cases of poisoning from wall-paper alone, and a twenty-seventh case of a lady who was poisoned from the covering of an easy chair. Danger lurks in all the comforts of the Massachusetts home. Dr. Folsom has seen a patient poisoned by a curtain, and Dr. C. P. Putnam found that the infants of the Infant Hospital were being poisoned by the blue dress of the trained nurse. And what, we would ask, is the good of living if Massachusetts is to shatter our faith in that modern idol, the trained nurse, and show that, instead of being an angel of comfort and light, she may possibly be only an arsenious compound.

Professor Lyon, of Harvard College, also tells a terrible tale. He is one of five Harvard professors all of whom had had cases of arsenical poisoning in their families. He had himself seen forty cases. It appears to

us that the professor has missed his opportunity; he should have reported the epidemic and showed its contagious character, for the evidence seems to accumulate in favor of the view that in Boston mural arsenic poisoning is an infectious disease.

Dr. C. P. Worcester has examined fifty specimens of urine from ordinary dispensary patients and found arsenic in nearly one-half the cases. This again shows the extraordinary prevalence of latent germs. In fact there seems to be an appalling possibility that Massachusetts is being systematically poisoned by an inoculable, malignantly infective, and extremely prevalent form of arsenical poisoning. We rejoice to learn that the Legislature and State Board of Health are at work upon the matter.

PHYSIOLOGICAL EXPERIMENTS ON THE EFFECT OF ALCOHOL.

It has been well established in late years that under certain circumstances the continued use of alcohol produces a form of inflammation of the nerves known as multiple neuritis, or clinically, as alcoholic paralysis. These cases are rare and often occur in those whose indulgence in alcohol has not been excessive, so that it has seemed as if some element besides alcohol alone was necessary to cause the nervous disorder. Experiments with alcohol upon the lower animals have not heretofore shown that its continued use produces any such condition as multiple neuritis in man.

In a recent essay, however, by Dr. P. F. Spaink, of Baarn, Holland, to which was awarded the Mason Prize, some facts are given which seem to show that alcohol does have a directly degenerating influence upon the peripheral nerves. Only an abstract of Dr. Spaink's work has as yet appeared (*Journal of Inebriety*), and many details are lacking. But we learn that Dr. Spaink fed several series of rabbits with pure alcohol, giving them from 2.3 to 8 cubic centimetres daily(ʒ ss. to ℥ ss.). The animals were finally killed and the peripheral nerves examined microscopically, control animals being used. In the great majority of cases degenerative changes were noted. They consisted essentially in a splitting or fissuring of the nerve, with the appearance of elongated, usually large, collections of myeline, thickened or thinned parts of nerve fibres, myeline drops, or simply neurilemma sheaths. Very rarely could any increase of nuclei be observed.

Besides this a large number of specimens showed, in addition to the above-described degeneration, a further peculiarity. This was a twisting or looping, after a corkscrew fashion, of the axis cylinders. These corkscrews recurred at varying distances on the same or neighboring fibres. At these twisted spots the axis cylinders appeared thicker, broader, and more diffuse than when their course was direct. Sometimes in badly-stained preparations these corkscrews were all that could be seen of the axis cylinder.

Since a splitting of the nerve fibres and corkscrewing of axis cylinders are changes unknown to human nerves in alcoholic neuritis, the correctness of Dr. Spaink's findings is likely to be questioned.

A corkscrew appearance of the nerves in alcoholism is, however, very suggestive, since that interesting and useful spiral instrument plays so large a part etiologically in the disease. Is it possible that Dr. Spaink is a grim joker who has been trifling with the pundits of the American Association for the Study and Cure of Inebriety? One must not forget Dr. Dujardin-Beaumetz and the pigs to which he gave alcohol for two and a half years without causing serious structural changes anywhere. There were no corkscrews in the pigs.

News of the Week.

The Managers of the New York Cancer Hospital gave a musicale at the hospital, Eighth Avenue and 106th Street, on Saturday, May 16th, to commemorate the completion of the Astor Pavilion and Cullum Chapel. The following artists kindly volunteered their services: Miss Stoddard, Miss Lawler, Mr. Rieger, Mr. Hilliard, Mrs. Le Moyne, and others. The new pavilion is for male patients, and is completely equipped, but depends for its maintenance on voluntary contributions.

The New York Skin and Cancer Hospital opened a new pavilion at Fordham Heights last week. The occasion was taken to celebrate the work of the hospital during the past nine years. Speeches were made by the President and by the Secretary of the Medical Board, Dr. St. J. Roosa, and Rev. R. S. MacArthur.

Seventeen Members of the Canadian House of Parliament are physicians.

Concerning State Medical Examinations for New York.—The amendment to the law passed in 1890, creating a Board of Medical Examiners, provides that those who claim exemption from the State Examinations shall file certificates of his or her matriculation, before June 5, 1890, within three months of the passage of the amendment. The committee on legislation of the State Society, under instructions from the body that created it, vigorously opposed this amendment, and they now propose to see that no person is exempted without a certificate, and they also propose to look at the documents sent as such. The following is the reply to a note from the committee, addressed to the secretary of the Board of Regents on this subject.

"Regent's Office, Albany, N. Y., May 13, 1891.

"Dr. D. B. St. John Roosa,

"*Chairman Committee on Legislation, New York City.*

"Dear Sir: Replying to your request of May 11th, I beg to say that the Committee on Legislation of the State Medical Society will always be given every facility to examine all records and papers pertaining to the licensing of physicians in this State. As I understand it, these matters are of public record, and any citizen has a right to see them. Beyond that, the sympathies of this office are warmly with your committee and all others who are trying to free our great State from the reproach of practitioners who are deficient in general and medical education. It will therefore give us pleasure to offer you any reasonable facility in exercising the watchful care delegated to you by the State society.

"Very truly yours,

"Melvil Dewey."

Phenocollum Hydrochlorate is the name of a new antipyretic, allied to phenacetin, and given in doses of 7 to 15 grains.

Thyroid Grafting in Myxœdema.—Dr. W. J. Collins, of the London Temperance Hospital, has transplanted the whole thyroid gland from a sheep into the submammary region of a woman suffering from myxœdema. The organ, which weighed from six to eight ounces, must have become quite "vitalized," as there was no suppuration, and the wound healed by first intention. It is too early to speak of any marked result; but, in the four weeks that have elapsed since the operation, the patient's general condition and appearance are stated to have improved.

The Fifty-ninth Annual Meeting of the British Medical Association will be held at Bournemouth on Tuesday, Wednesday, Thursday, and Friday, July 28, 29, 30 and 31, 1891. President, Dr. Willoughby Francis Wade. An Address in Medicine will be delivered by Thomas Lauder Brunton, M.D., F.R.S., Lecturer on Materia Medica and Therapeutics at St. Bartholomew's Hospital, London. An Address in Surgery will be delivered by John Chiene, M.D., F.R.C.S.Ed., Professor of Surgery at the University of Edinburgh. An Address in Public Medicine will be delivered by Edward Cox Seaton, M.D., Lecturer on Public Health at St. Thomas' Hospital, London.

The Long Island College Hospital, Brooklyn, announces that the regular course of lectures will hereafter be six months in duration, and three courses of lectures will be required for graduation. Joshua M. Van Cott, Jr., M.D., has been appointed Professor of Histology and Pathological Anatomy, vice Frank Ferguson, M.D., who has resigned.

Dr. William A. Hammond's Suit for Libel.—It will be generally remembered that the newspapers of the country recently reported that Dr. William A. Hammond, of Washington, D. C., had charged Senator Stanford $5,000 for removing a wen from his scalp. This is pronounced a criminal libel by Dr. Hammond, and he has had a warrant issued against Mr. William L. Crouse, Washington correspondent of the New York *World*, for sending such a libel for publication to his paper.

The Seventh Annual Meeting of the Fifth District Branch of the New York State Medical Association will be held in Wurzler's Building, 315 Washington Street, Brooklyn, Tuesday, May 26, 1891. The following papers are announced: President's Address, "Opiates in the Treatment of Acute Peritonitis," by Dr. Stephen Smith; "Cathartics in the Treatment of Acute Peritonitis," by Dr. A. Palmer Dudley; "The Treatment of Hydrocele by Carbolic Injection versus Radical Operation," by Dr. Samuel E. Milliken; "Scarlatinal Diphtheritis and its Treatment," by Dr. E. G. Rave; "Practical Results of the Operation for Lacerated Cervix Uteri," by Dr. H. W. Mitchell; "Objections to Ordinary Axis traction Instruments, also the Advantages of the Use of the Anticraniotomy Forceps over Version in Pelvic Deformities," by Dr. T. J. McGillicuddy; "A Case of Obstinate Neuralgia following Fracture relieved by Operation," by Dr. Reginald H. Sayre; "Acute Prostatitis and Prostatic Abscess," by Dr. William R. Ballou.

The California State Board of Health has recently been saddled with an attorney who gets $3,000 a year for his work, if he does any, while the members of the Board, with the exception of the secretary, get nothing.

Dr. Dewey's Change of Heart.—We have received the following candid and poetical acknowledgment of his change of views on the subject of antiseptics. We take pleasure in publishing them, and we hasten to add an expression of regret at having misspelled the name. Dr. Dewey writes: "Your criticism in the RECORD on my change of heart on microbes, is well taken.

> "Pure obstinacy in face of facts,
> Of ignorance and folly smacks.
> Mutations in this fickle age,
> Point to the statesman and the sage.
> The parasite has got on top,
> Whatever system we adopt,
> To kill the germ is all the go,
> To stifle it in embryo.
> Inventions that last one decade,
> Of very precious stuff are made.
> Water, the cheapest we can get,
> Has had no serious backset yet."

Cairo has an Epidemic of the dengue.

A British Pasteur Institute has been organized at Cambridge.

The Seventh International Congress of Hygiene and Demography will be held in London, from the 10th to the 17th of August, under the presidency of the Prince of Wales.

Dr. James N. Martin has been appointed Professor of Obstetrics and Diseases of Women at the University of Michigan. He filled the chair since Professor Dunster's death.

The Ninth Annual Commencement of the Woman's Medical College of Baltimore was held on May 1st, when diplomas were conferred on six graduates. Dr. Winslow, the Dean, delivered an address in which he told how the experiment of co-education was tried and failed. The story should be of interest to the Johns Hopkins' trustees.

Dr. G. Otis Pinero, of Elizabeth, N. J., died of heart disease, on May 19th.

New York Polyclinic.—At a meeting of the Faculty of the Polyclinic, held May 14th, Dr. Robert H. M. Dawbarn was elected to the Professorship in Surgical Anatomy and Operative Surgery.

Kansas City Medical College.—This college is one of the oldest west of the Mississippi, and has just completed its twenty-second annual session. The total number of matriculates was eighty, and the graduates, twenty-two for past session. Hereafter attendance upon a three-years' graded course will be required. To carry out this plan of instruction, additions will be made to the Faculty and a new lecture-room will be provided.

New York Post-Graduate Medical School.—At the meeting of the Directors of the New York Post-Graduate Medical School and Hospital, H. J. Boldt, M.D., was made Professor of Diseases of Women, William James Morton, M.D., Professor of Electro-Therapeutics, and Aug. Caille, M.D., Professor of Diseases of Children.

The German Congress of Internal Medicine continued its discussion on the use of tuberculin. The views expressed were faint in praise of its use. Professor Naunyn summed up the discussion. There was general agreement that diagnostically tuberculin was of less value than therapeutically. On the latter point observation varied essentially in laryngeal and pulmonary cases; for whereas no one had controverted the favorable results obtained in the former by Dr. Moritz Schmidt, on the latter there were most divergent views. On many sides there seemed to have been more favorable results at the clinics this winter; but whereas some of the speakers ascribed this solely to the action of tuberculin, others considered it due to the greater in-rush of patients seeking treatment, which yielded better statistics, which are not comparable with those of previous years. Dr. A. Fraenkel opened a discussion on "Angina Pectoris," with a paper which contained nothing new. Dr. Vierordt (Heidelberg) dealt with diagnosis, prognosis, and treatment of the disease. He noted the difficulty in differentiating it from cardiac asthma, and said some cases of angina passed into the latter. He distinguished (1) angina vera from sclerosis or syphilis of coronary arteries; (2) angina from organic heart disease, pericardial adhesion, aneurism; (3) toxic angina (lead and tobacco); (4) nervous, reflex, hysterical angina. In favor of organic angina (1 and 2) are the age of the patient and the presence of arterial sclerosis; while against it is the occurrence of an aura, the frequency of attacks, and the readiness with which they are borne. Prognosis is difficult and delusive in both the apparently slight as well as severe cases. The purely nervous form has a good prognosis, but that due to tobacco is less certain. Therapeutically, in nervous angina narcotics, especially morphine injections, should be used. In organic angina first stimulation should be employed (injections of camphor), and then careful use made of narcotics. Morphine holds the first place. In England nitrite of amyl and nitro-glycerine are much used, but Dr. Vierordt would not employ them in organic cases; they were preferably used in nervous angina, especially in the vaso-motor form. Derivatives to heart and extremities were often of value. In the intervals, iodide of potassium and regulation of exercise. As to pathogenesis, he could not admit the theory of cardiac weakness, since it was not always present, and it was more associated with cardiac asthma. He thought the attack rather due to the action on the heart of some unknown agency, which if the muscle be healthy excites pain alone, and if it be diseased causes both pain and weakness. Professor Quincke (Kiel) read notes of a case of hydrocephalus treated, with relief, by trephining and puncture (six times repeated during one month). In another case, with meningitic symptoms, he had produced improvement of symptoms, and finally recovery, by puncture of the subarachnoid space of the spinal cord which communicates with the cerebral ventricles. In another case of an adult with symptoms of cerebral compression, possibly due to chronic hydrocephalus, 80 c.c. of cerebro-spinal fluid were evacuated through puncture in the lumbar region, with improvement in symptoms. A Pravaz syringe is inserted between the arches of the third and fourth lumbar vertebræ, and introduced to a depth of about 2 ctm. in children, of from 4 to 6 ctm. in adults. The cauda equina being at this spot, there is no risk of injury to the cord. The operation is indicated in cases of acute rise in the cerebro spinal pressure, especially in tubercular meningitis. Perhaps permanent drainage of the spinal canal might be advantageous.

For Inebriate Women.—The articles of incorporation of the "Saint Saviour's Sanitarium" were filed last week in the office of the county clerk. The society's object is the reformation of inebriate women.

The Beth Israel Hospital is the name of a new hospital and dispensary opened on the East side.

A Very Nervous Plaintiff.—Last year, while travelling upon the Boston & Maine Railroad, Mr. George A. Matthews was injured. Subsequently he claimed that his nervous system had been shattered, and sues for $50,000 damages. As he cannot now bear to hear the rumble of cars nor the sound of escaping steam, he has secluded himself in a town in the hills some fifty miles from the seaboard. There thirteen lawyers and doctors gathered recently to listen to his deposition and to testify. It was found that he could ride in a carriage and sail in a sail ing-craft, whereupon the Boston & Maine people offered to furnish a team and a sailing yacht to Boston, two hundred and fifty miles, free of all expense to Matthews. In fact the railroad company demanded of him that he so travel and attend the trial in person, and the injured man agreed to do so.

A Quarrel Among Iowa Physicians.—Dr. G. M. Staples has served papers on Dr. J. F. McCarthy, in a suit for $10,000 damages. Both are prominent physicians of Dubuque. The suit grows out of the publication and distribution of a circular, containing numerous clippings from Dubuque papers, in which the names of Dr. Staples and other physicians appeared as surgeons or attendants in cases of accident or illness. Staples has always been a stickler for the enforcement of the Code of Medical Ethics, debarring physicians from advertising, and this circular was issued to show that the men who most emphatically insisted on the enforcement of the Code were the most liberally advertised, free of expense to themselves. This circular was distributed at the late meeting of the State Medical Association in Waterloo. Dr. McCarthy and other younger physicians, who believe in advertising, are charged with the authorship of the offensive circular.

The Great Hospital of the Polyclinico at Rome is uncompleted, and is in danger of being abandoned on account of the policy of retrenchment adopted by the Government.

The Prohibition of the Sale of Tuberculin in Munich has now been made absolute. Druggists are forbidden to sell it even to medical men.

The University of Pennsylvania, Medical Department, held its commencement on May 1st, and graduated a class of one hundred and thirty-three.

Mütter Course of Lectures on Surgical Pathology, of the College of Physicians of Philadelphia.—Professor Roswell Park, of Buffalo, N. Y., delivered Lectures VII., VIII., IX., and X., of the Mütter Course in the Hall of the College of Physicians of Philadelphia, on May 12, 13, 14, and 15, 1891.

Medical Legislation in Arkansas. — The Arkansas Legislature has enacted a law providing for the revocation of physicians' licenses for unprofessional conduct. The law is aimed chiefly at the Hot Springs physicians. Regarding this class, the *Journal of the Medical Society of Arkansas*, says: "Recently a physician visited Hot Springs and there met a doctor whom he had known in former years, and who was then poor but respectable. In response to the usual inquiry as to how the Hot Springs doctor was getting along, the latter replied that he was doing a regular '*cut-throat*' business, employed drummers, and 'stood in' with the hotel people, paying to the latter classes one half of all the fees collected from patients roped to him by them; that he had to keep a revolver in his desk all the time, because when patients found out they had been drummed they frequently returned to him and demanded their money, and he had to bluff them off and be prepared to defend himself; that all the Hot Springs drumming doctors did the same way, and added that they all drummed in one way or the other." It would look, from the above, as if the new Arkansas law had a rich field in which to exercise.

The French Surgical Congress, whose sessions began on March 30th, at the same time with that of their German *confrères*, was made interesting by communications from two Englishmen of somewhat antagonistic views, Sir Spencer Wells and Mr. Lawson Tait. Their common subject was oöphorectomy. Sir Spencer protested again against the present craze for doing it; he is satisfied that affections of the Fallopian tubes are much less common than is sometimes maintained, and he claims that salpingitis and pyosalpinx are curable without operation. Mr. Lawson Tait pleaded the innocuousness of salpingo-oöphorectomy, his figures yielding a mortality of only three per cent. He rejected the idea that castration produces premature old age, and maintained that the effects of the operation on the sexual appetite varied with the age at which it was performed—viz., before or after puberty. Of 271 castrations performed for uterine myoma, success was complete in 257. Performed before the age of forty, the operation determined the complete disappearance of the tumor 70 times out of 100. After forty years the myoma simply diminishes in volume by a sixth or a third. Formerly Mr. Tait entertained great doubts as to the expediency of castration for the cure of neurotic affections. Now, however, he believes the operation justifiable in epilepsy of menstrual origin, and he cited an instructive case of castration for menstrual insanity, in the person of the niece of a celebrated physician, in which the patient recovered completely.

A Successful Surgical Operation on a Centenarian.—Mr. W. H. Galland reports (*British Medical Journal*) a successful operation for the removal of an epithelioma from the lip of a man aged one hundred and two years.

The Prescription of Aconitine.—A medical practitioner of Montécouver, in France, was recently tried on a charge of "homicide by imprudence." The evidence showed that on December 21, 1890, he had prescribed 1 milligramme of aconitine for a young woman suffering from toothache. The patient was seized with colicky pains immediately after swallowing the dose, and died a few days later. The result of a *post-mortem* examination by a medico-legal expert led to the suspicion of aconitine poisoning, and it was at first supposed that the chemist who dispensed the drug had made a mistake; but after further investigation, the doctor was placed on his trial. Professor Brouardel gave evidence to the effect that the dosage of aconitine was not yet definitely settled, but that, in prescribing, medical men should follow the injunction given in the French Codex, and order only crystallized aconitine. The omission of this precaution led, according to Dr. Brouardel, to most dangerous confusion, to which he promised once more to call the attention of the Academy of Medicine. The defendant was fined 100 francs.

Investigating Ghosts.—The French Society of Physiological Psychology has appointed a committee to investigate the possibility of hearing the voices and seeing the counterfeit presentments of persons known to be far away at the time.

The Harvard Medical School Association was organized in Boston on April 30th. It is intended to include all graduates of Harvard Medical School. Dr. G. R. Chadwick was elected President, and Dr. R. W. Lovett, Secretary, and Dr. Walter Ela, Treasurer.

Vital Statistics for Maine.—"An Act to provide for the registration of vital statistics" was passed at the session of the Maine Legislature just closed. The act will take effect on the first day of January, 1892.

A New Antiseptic.—At the Académie de Médecine, on April 28th, M. Polaillon read a paper contributed by Dr. Berlioz, of Grenoble, on a new antiseptic agent called "microcidine," which is composed of seventy-five per cent. of naphtholate of sodium and twenty-five per cent. of naphthol and phenyl compounds. It is a white powder obtained by adding to fused β-naphthol half its weight of caustic soda, and allowing the mixture to cool. It is soluble in three parts of water, and the solution, which is cheap, is said to possess considerable antiseptic powers, without being toxic or caustic or injurious to instruments or linen. The antiseptic properties of microcidine, while inferior to those of corrosive sublimate or naphthol, surpass those of carbolic and boracic acids ten and twenty times, respectively. Microcidine is eliminated by the kidneys, and is antipyretic. M. Polaillon has experimented with this new agent largely in his wards as a dressing to recent and other wounds, utilizing as a dressing, after a preliminary cleansing of the raw surface with a three per cent. solution, gauze soaked in the same and covered with a layer of oil silk and a thick pad of cotton-wool. The results are reported to have been excellent.—*Lancet.*

Congress for the Study of Tuberculosis.—The programme of the Second Congress on Tuberculosis, which will take place in Paris from July 27th to August 2d, under the presidency of Professor Villemin, comprises the following subjects: 1, On the identity of human tuberculosis with that of bovines, the gallinacea, and other animals; 2, the bacterial and morbid associations of tuberculosis; 3, on hospital treatment of the tuberculous; 4, prophylaxis of tuberculosis in man and animals; 5, agents which are capable of destroying Koch's bacillus without injury to the organism, in regard to the prophylaxis and treatment of human and animal tuberculosis.

Medical Hats. — It is proposed by certain German physicians that medical coachmen, or rather the coachmen of medical men, be distinguished by wearing white hats.

St. Louis Medical College has been made the Medical Department of Washington University. The college will soon erect a new building.

New Procedure in Abscess Treatment.—The treatment of chronic or cold abscess by the method of aspiration and injection of antiseptic solutions, such as iodoform dissolved in ether, is a favorite plan of some French surgeons, and is the one usually adopted for some time past in the wards of M. Verneuil, now the Senior Professor of Clinical Surgery in the Paris Faculty; but it appears to have been reserved in France to Dr. Piéchaud, of Bordeaux, to have adapted the method with success to the treatment of acute inflammatory abscesses. Instead of the time-honored free incision of the most dependent part Dr. Piéchaud aspirates the abscess, after which he injects a solution of 1 in 1,000 of corrosive sublimate. For the past ten months he has invariably adopted this method in his hospital practice, and, he declares, with marked success. Even if the skin over the seat of the abscess be thinned and undermined, this is no bar to the procedure, for which he claims as advantages that it is less painful, leads to more rapid healing, and leaves no traces of scar. —*The Lancet.*

Important Improvement in Microscope Lenses.—It is stated that an immense improvement has recently been effected in the manufacture of glass for optical instruments by means of the addition to the ordinary materials of phosphorus and chlorine, which in some as yet unexplained way cause the glass to be very much more transparent, and enable it to receive a much higher degree of polish than any optical glass hitherto manufactured. Thus microscopes can be made which will render objects of the diameter of only the one-eight millionth of a millimetre visible, whereas with the best instruments now in use the diameter of the smallest object that can be seen is one-sixteen thousandth of a millimetre.

Reviews and Notices of Books.

Hereditary Health and Personal Beauty. By John V. Shoemaker, A.M., M.D., etc. 8vo., pp. 422. Philadelphia: F. A. Davis. 1890.

This book is written primarily for the laity, but will prove of interest to the physician as well. The author has been too long before the public to need any introduction, and any criticism of style would be out of the purview of this notice. He here discusses the general laws of health in their relations to the regulative laws of life and growth. Special chapters are devoted to man's spiritual and physical place in Nature. The topic of the effect of environment on physique is elaborated at some length. The practical part of the book is given up to chapters on the bath, care of the skin, hands, feet, nails, hair, teeth and nose, clothing, etc., with sensible remarks on ventilation and other popular topics now so widely discussed. A somewhat extensive formulary of cosmetic articles, medicated soaps, and household remedies is appended.

These various subjects are discussed from their moral as well as physical aspect. Though the author goes to some extent into technicalities, he confines himself to the use of good, plain English, and in that respect sets a notable example to many other writers on similar subjects. Furthermore, the book is written from a thoroughly American stand-point.

Wood's Medical and Surgical Monographs for March, 1891. Contents: "The Modern Diagnosis of Diseases of the Stomach," by J. M. Purser, M.D., Dublin; "Unsoundness of Mind in its Legal and Medical Considerations," by J. W. Hume Williams, of London; "Baldness and Grayness, their Etiology, Pathology, and Treatment," by Tom Robinson, M.D., London. Pp. 293. Single copies $1; per year, $10. New York: William Wood & Co.

The three articles contained in the March number of "Wood's Monographs" are deserving of extended praise, as they are all excellent. The one on the diagnosis of diseases of the stomach, however, will probably be most welcome to the greater part of the profession, as it gives easy and practical methods of examination of stomach contents. Any practitioner can determine hydrochloric acid, pepsin, and other substances, a knowledge of which is so useful and sometimes necessary in the differential diagnosis of cancer. Medical jurisprudence is a much neglected branch of study in most colleges, and so excellent an addition to it as is Mr. Williams's paper on "Unsoundness of Mind" will be eagerly studied by the thousands who read the monographs.

Manual of the Domestic Hygiene of the Child, for the Use of Students, Physicians, Sanitary Officials, Teachers, and Mothers. By Julius Uffelmann, M.D., Professor of Internal Medicine at the University of Rostock. Translated by Harriot Ransom Milinowski. Edited by Mary Putnam-Jacobi, M.D. Pp. viii.–229. New York and London: G. P. Putnam's Sons.

The market is loaded with "Manuals of Nursing," "Hints to Mothers," etc., and the question of the care of the baby is exhaustively treated, but strange to say comparatively little cognizance is taken of the child from his weaning to puberty. This period is beset with special ills and is deserving of more attention than it receives. Professor Uffelmann's book is complete. It takes the child from the moment of birth and considers it from a hygienic stand-point to adolescence. The matter is excellent. Nothing is stated empirically, but the whys and wherefores are discussed, and deductions are based on facts and on clinical experience. The chapter on nourishment is worth the price of the book several times over. The book has an unique position, being designed for both professional and non-professional readers. This end is obtained by placing statistics, tables, and technical matters in footnotes, to which the professional reader can refer, and leaving the text clear. The book ought to be in the hands of every mother. The editor and translator have both added much of value to the book. The translator's work is deserving of praise.

The Post-Graduate Clinical Charts, Designed for Use in Hospitals and Private Practice. Arranged and published by William C. Bailey, M.D., and J. H. Linsley, M.D. New York: J. H. Linsley & William C. Bailey. 1891.

These clinical charts have been carefully and ingeniously prepared, and are superior in very many ways to any similar devices for keeping accurate records. The charts come in sets of ten. The first two contain figures for marking out the seat of lesions in the thoracic and abdominal cavities, and on the vocal cords.

Then follow temperature, pulse, and respiration charts, and finally charts for recording the general progress of the case. By the use of the methods furnished by charts like these careful records are much more surely obtained, and the final study and analysis of cases can be more easily made. Drs. Linsley and Bailey have furnished the profession a very serviceable help in clinical work.

Society Reports.

American Medical Association.

FORTY-SECOND ANNUAL MEETING.

Held in Washington, D. C., Tuesday, Wednesday, Thursday, and Friday, May 5, 6, 7, and 8, 1891.

(Continued from page 579.)

SURGICAL SECTION.

SECOND DAY, WEDNESDAY, MAY 6TH.

Traumatism of the Chest.—DR. J. MCF. GASTON, of Atlanta, Ga., read a paper with the above title. He pointed out the lack of definite instruction to be found in the text-books on surgery relative to traumatisms of the chest, and the necessity of more definite knowledge. He divided the subject into: 1, foreign bodies in the trachea and bronchi; 2, blows affecting the functions of the heart and lungs; and 3, punctured wounds. The literature of the subject was then reviewed, and the treatment of the first two divisions of the subject discussed. In punctured wounds the question had always been as to whether the wound should be closed or left open, and it had generally been held that when the hemorrhage into the pleural cavity was slight in amount the wound might be closed, but where the hemorrhage was considerable the wound should not be closed. With this Dr. Gaston took issue. He advised that all wounds should be closed and hermetically sealed. If there was much blood in the pleural cavity, as much as possible should be removed, the chest compressed by a firm bandage, and the wound closed and sealed. In large accumulations of blood he said it seemed probable that absorption of the clot took place. If it did not, the case could be treated as an ordinary case of pleuritic effusion. Unless air had entered the pleuritic cavity suppuration was not to be expected. In cases of hernia of lung-tissue he advised the use of the elastic ligature.

DR. ANDREWS, of Chicago, said that some cases did well whatever the treatment, and that other cases did not do well, apparently because air was drawn into the pleural cavity from the wound in the lung.

DR. MYNTER, of Buffalo, referred to the advice of some recent German writer, who advised in those cases where there is no wound in the lung, to fill the pleural cavity with a boric-acid solution, seal the wound, and then aspirate the artificial pleuritic effusion in the ordinary way, with the idea of allowing re-expansion of the lung.

DR. RICKETTS, of Cincinnati, said the same thing could be effected by over-distending the wound in the chest wall by a rubber tube, washing out the pleural cavity through this, and the closing the tube by a ligature.

The Surgical Use of Aristol.—DR. W. C. WILE, of Danbury, Conn., reviewed the literature of the subject, and reported in detail several cases in which he had used the drug with the most happy results. He said that in all recent wounds, where the cleanliness was reasonably good, the use of aristol gave the best results. At the first dressing there would be found to be no exudation, the aristol would be dry, and the wound would be dry. It had many advantages over iodoform. It is not poisonous, it has no odor, it does not irritate, and is fully as antiseptic as iodoform.

DR. ROBERT NEWMAN, of New York, said that he had experimented extensively with aristol, and related his experiments to prove that the drug is not absorbed.

Peritonitis from a Surgical Standpoint.—DR. MORDECAI PRICE, of Philadelphia, said that idiopathic peritonitis was a myth and a delusion; and that the opium treatment is so, the most of all, in that it blinds the surgeon to the rational and proper treatment. He said that the disease is so peculiarly surgical that we do not need to resort to the dead-house to learn our pathology—the pathology is learned on the operating-table. The symptoms of peritonitis are: A chill, but this is not constant; a high temperature, but this is not always present; pain, which may be so slight as not to be complained of; the pulse may be weak in the beginning, or soon become hard and tense; tympanites not always present; a facial expression of anxiety, which is by far the most constant and characteristic symptom; constipation is always present, and should be an indication to the practitioner that opium is unnecessary. He believed that there was always an irritating cause, and that the cause can be demonstrated.

He had operated, or assisted at the operation, by abdominal section, in five hundred cases of peritonitis during the past five years. All were suppurative cases, and all would have died. In all cases a well-defined cause was found. There was not one case of idiopathic peritonitis. In not one case of the series did peritonitis follow the operation. He considered disease of the uterine appendages as the most frequent cause; next, appendicitis; and next, meddlesome gynecology.

Treatment should be to first search for the cause, and having found it, remove it. If the cause cannot be found the case should be cleared up by the administration of saline purgatives. If under the use of salines the distention does not disappear, and the temperature fall below the pus standpoint, operation is imperatively demanded.

DR. QUIMBY, of New Jersey, believed that many primary cases could be cured without operation by proper preliminary treatment. His treatment consists of a combined use of opium and calomel, and the application of poultices. In twenty five years he had not lost one case under this treatment. Hoffman, of Philadelphia, said that more than one has been killed by the distention of the intestine by gas. Opium paralyzes the intestine, favors distention, and checks the secretions. If a patient recovers under the opium treatment, he recovers not because of the opium, but in spite of it.

DR. DAVIS, of Birmingham, Ala., often used calomel purgation instead of the salines; and he frequently flushes out the intestine as well as the abdominal cavity.

DR. BALDY, of Philadelphia, agreed in the main with the writer of the paper, but he believed that cases not relieved by salines do get well under rest treatment. On the other hand general purulent peritonitis never gets well under any treatment whatsoever. He believed that four hundred and fifty out of five hundred cases of peritonitis would get well without operative measures.

DR. PRICE said that four hundred out of his five hundred cases were at the point of death when operated upon, and that all were suppurative cases. He did not operate unless there was pus, and he believed that salines and calomel will cure nine out of ten non-suppurating cases. In traumatic cases he believed that operative measures were always demanded.

The Relation of Concussion of the Brain and Spinal Cord to Inflammatory and other Morbid Changes in these Organs.—DR. B. A. WATSON, of Jersey City, N. J., presented a very exhaustive paper upon this subject. The paper was so long, however, that the conclusions were not reached when the reading was terminated by the time-limit. The paper was based upon one hundred and forty-one experiments aimed to produce concussion of the spinal cord, and the author is convinced that to produce such concussion a very severe blow must be inflicted, inasmuch as the spinal cord is the most difficult organ in the body to be affected by concussion. In some of his experiments the microscope demonstrated a lesion where none was discernible to the naked eye. Of course in fractures and dislocations the injury to the cord is obvious. In true concussion but slight symptoms are present, and the concussion does not give rise to any inflammatory action. By true concussion he means concussion by vibratory action, and he draws a line between concussion and contusion. Suppuration as well as in-

flammation may result from contusion, but not from concussion.

Is Early Resection or Conservative Treatment Advisable in Coxitis?—Dr. Herman Mynter, of Buffalo, N. Y., answered his own question in favor of resection. He reviewed the pathology of Volkmann and Koenig, showing that the primary focus of the joint disease is nearly always located in the bone, and upon these premises founded his argument and drew the deductions for removal of the diseased focus by operative measures at the earliest possible moment. He admitted that coxitis, in any stage, may recover without operation, but asserted that all cases treated conservatively recovered with more or less flexion and adduction. He reported upon ten cases operated upon by himself, and stated his belief that by an early operation, and only by an operation, the disease could be arrested, the mortality reduced, and that rapid healing of the wound and a movable joint could be confidently anticipated, with no flexion, adduction, or other deformity than slight shortening, and that the functions of the limb were far better than could be obtained by conservative treatment. In addition, and not an unimportant point, the patient was relieved from years of suffering and treatment. He exhibited the specimens removed from two recent cases. One had suffered but four, and the other six, weeks prior to the operation; both showed the primary focus to have been in the bone, and both were suppurative cases. Both cases had recovered, and had been discharged from the hospital at the end of three weeks.

Dr. W. R. Townsend, of New York, did not believe that disease had existed only four and six weeks in the cases whose specimens were presented, and he did not consider them as cases that could properly be called early cases. He denied the charge that all, or most, cases of coxitis treated by proper mechanical means aimed to give physiological rest to the joint, recover with flexion and adduction, or that the functional results following operation were better than those obtained by conservative treatment. He referred to his own large experience in the management of hip cases, and compared it to the small experience of the author of the paper, and held that Dr. Mynter's conclusions should not be accepted as conclusive.

Dr. R. H. Sayre, of New York, agreed in the main with Dr. Townsend, and held that under proper mechanical treatment, good diet, and hygienic surroundings, patients almost invariably recover with good joints. Only cases that do badly under proper conservative treatment should be subjected to operative measures.

Dr. Ridlon, of New York, agreed with Drs. Townsend and Sayre; he accepted the pathology of the author, but held that that did not prove that the patient would not recover without the operation, or that he would recover with the operation. He referred to the work of Wright, of Manchester, Eng., who has done more excisions during the early stage than any other surgeon, and asserted that Wright admitted that relapses were not infrequent after the results of the operation had remained sound for as long as two years. Bearing on the functional results obtained by excision, he referred to the half-dozen cases exhibited by von Bergmann in his clinic, on the occasion of the International Congress, at Berlin, last August, and asserted that they all showed flexion as well as shortening, and some had adduction. He pointed out, as a cause of relapses after operative measures, the failure to remove the primary tubercular focus in the patient—usually in the bronchial lymph-nodes—though the primary focus in the joint had been removed, the fact that cases after operation were not given prolonged mechanical support until all unsoundness had passed away from the joint, and the locality no longer furnished a better field than any other part for the tubercular seed derived from the cheesy lymphatic glands. He suggested that those anxious, from logical deductions rather than clinical experience, to remove the primary focus, should remove the bronchial lymph-nodes; and said that early removal of the primary bone lesion to eradicate the disease could be compared with laparotomy to remove Peyer's patches as a means of cure for typhoid fever.

In conclusion, Dr. Mynter did not by any means accept the logic of his friends, the orthopedists, and held that if his pathology was accepted, operation must be the logical conclusion of any intelligent mind. He regarded the tubercular bacillus as not pathogenic, and suppuration as purely an accidental infection.

Third Day, Thursday, May 7th.

Cadaver Studies on the Removal of the Semilunar Ganglion through the Floor of the Cranium.—Dr. Edmund Andrews, of Chicago, said that the frequent relapses after resection of portions of the fifth nerve for facial neuralgia had led to these studies. He had found repeated relief, often of months' duration, from opening up the wound after resection and pulling on the stump of the nerve. He believed that the persistence of the neuralgia was due to a neuritis of the dental nerve, extending up the nerve from a decayed tooth to the semilunar ganglion, and from thence the other branches of the nerve became affected. To eradicate the disease it would therefore seem desirable to excise the ganglion. Professor Rose, of Kings College, London, Eng., seems to have been working in the same direction at the same time, and was the first to operate upon the living subject. The manner of performing the operation, as done by Rose, was explained, as well as the anatomy of the part. Dr. Andrews advises the following operation: The nerve is exposed by sawing through the zygomatic arch at either side and turning it up together with the temporal muscle, and then sawing off the coronoid process and turning it down together with the masseter muscle. The nerve is then followed up and the base of the skull perforated by a trephine having a blunt pin, a cutting diameter of about two centimetres, and a handle sufficiently long to escape contact with the muscles. The round, blunt centre-pin is inserted into the canal, and the button of bone having been removed, the ganglion is exposed. It lies between two layers of dura mater; is readily separated from that next the skull, but is very adherent to that next the brain. The small hook-knife of Professor Rose is used in making section of the nerve-branches. Considerable traction upon the ganglion by pulling on the nerve can be exercised with safety.

On Deaths from Chloroform and Ether, since the Hyderabad Commission, with Conclusions Drawn from Them.—Dr. Lawrence Turnbull, of Philadelphia, presented elaborate tables upon this subject. The whole number of deaths reported since the report of the Hyderabad Commission was 43; 39 from chloroform, 4 from ether. The exceeding small number of deaths from ether demonstrates its great safety. Still, that it will kill, and does kill, and does kill from the heart cannot be doubted.

Dr. B. A. Watson, of Jersey City, referred to the lowering of the temperature, in the use of ether, of at least 1°, but in the use of chloroform to a still greater degree. This is the reason why he will continue to use ether.

Dr. Hunter Maguire, of Richmond, in answer to a question by Dr. Edmund Andrews, said that he had himself administered, or had had administered for himself, chloroform over one thousand four hundred times, and that in his brigade of the Confederate army chloroform was administered over two thousand eight hundred times, all without one death from the chloroform. One case, a woman, died from fright. He believed that the danger in chloroform was in its rapid administration. Chloroform is dangerous; ether is less so. In weak heart, from any cause whatsoever, ether is safer; in fatty heart, renal disease, and bronchial disease, chloroform is safer.

Dr. Wyeth, of New York, referred to the Ormsby inhaler as rendering the administration of ether much safer,

half an ounce of ether being sufficient to anæsthetize a patient for an hour.

Linear Craniotomy for Defective Mental Development.—Dr. W. W. Keen, of Philadelphia, reported that his first case, already published, showed a steady improvement in mental condition, but less than that reported of the cases of Lannelongue.

In his second case, no fontanelle existed at birth; the only other child of the family, an older brother, was hydrocephalic. Some time after having made the linear craniotomy upon one side, he made a second operation upon the other side of the head. There had been a slight but steady progress in mental development.

His third case had died suddenly about an hour and a half after the operation, when everything seemed to be going on well. The cause of death was not ascertained, as an autopsy was refused.

The fourth case, that of Gerster and Sachs, of New York, had died of anæmia three and a half hours after the operation.

The fifth case was that of Wyeth, of New York. In this case linear craniotomy was made on both sides, and from each end of each furrow another furrow was made downward, and the lateral bone-flaps were then pulled apart by the inserted fingers, spreading the quarter of an inch furrow to about an inch. The case recovered, and the mental improvement was reported to be marked.

The sixth and seventh cases were those of Lannelongue.

Dr. Keen regarded the operation as justifiable, as even death was preferable to a continuance of the condition in the bad cases. He regarded it as safer to operate at different times on both sides of the skull than to do both operations at the same time; and he also thought it safer not to practise the divulsion of Wyeth, as the dura mater is usually very adherent in children. Recently McClintock, of Kansas, had operated by Wyeth's method, making in all eight cases. The patient was alive, but the operation was too recent to report upon the mental progress.

By the use of the cutting forceps devised by Dr. Keen, he was now able to do a single linear craniotomy in twenty minutes, whereas in his first case it had taken him seventy minutes. This he considered as of great importance, inasmuch as the defective circulation in these cases contraindicated prolonged anæsthesia.

Dr. Wyeth, of New York, said that he agreed that it was safer to open both sides by successive operations, instead of both at the same operation, as he had done in his first case. He has, since his first case, made the unilateral operation in two cases. He, however, believes that the tearing open of the furrow has been the reason for the rapid improvement in his case.

Dr. Pancoast, of Philadelphia, queried whether rapid brain expansion could be expected when the firm dura mater still enclosed the brain.

Dr. Thomas, of Pittsburg, Pa., said that in judging of the operation the clinical history of untreated cases should be considered. He had a microcephalic patient who did not walk until four years of age, and did not talk until he was five, who now, at ten years, was as bright as the average boy of that age. He had another case that did not notice things until he was four, and now, at seven years, he was in some respects a genius. He believed that many will recover perfectly without operation.

Dr. Keen said that the operation had seemed somewhat illogical, inasmuch as the firm dura mater remains intact, and it is well known that the bony parts mould themselves upon the soft parts. And this was one reason for opposing the immediate divulsion, and he would rather so arrange his operation as to persuade the brain to develop gradually.

Exploratory Incision in Cases of Fracture of the Bones where Doubt Exists as to Their Character.—Dr. B. M. Ricketts, of Cincinnati, O., reported upon his experiments in the lower animals. He believes that union is more slow after the use of the saw than after the use of the knife; that where a knife cannot be used, a chisel should be selected. In those cases where a saw must be used, the finest obtainable saw should be selected. In compound comminuted fractures the fragments should not be removed, but should be carefully replaced, and if necessary wired with silver wire, in order to restore as nearly as possible the normal contour of the limb. In compound fractures he uses a boiled water dressing, frequently renewed.

Dr. R. T. Morris, of New York, preferred bone dowels, sterilized by dry heat, and silkworm gut.

Sprains of the Ankle.—Dr. W. R. Townsend, of New York, referred extensively to the writings of Monsell Moulin, Whitman, McCurdy, and others, and held that every sprain was worthy of careful surgical treatment until cured. His treatment consists of support to the part, rest, and restoration of joint function. He elevates the leg to reduce swelling, and a snug dressing of strips of adhesive plaster, cut from one to one and a half inch wide. Over this a roller bandage is placed, and the patient allowed to walk in the milder cases. In the more severe cases he adds a plaster-of-Paris or silicate splint. The dressing should be frequently renewed, and motion allowed as soon as possible to prevent adhesions within the joint. Later he gives hot and cold douches, and massage.

Supra-pubic Cystotomy.—Dr. J. A. Wyeth, of New York, reported in detail upon twenty-three cases, and then gave a description of the operation with such clear and careful attention to every minutiæ of detail, that it seemed that one not a surgeon might readily and safely perform the operation. He believes that for the thorough digital exploration of the bladder, for the removal of tumors, and for temporary or permanent drainage of the bladder, it is far superior to the perineal operation. For removal of stone or foreign body, it is so safe and satisfactory that he prefers it to the low operation.

Dr. Keen, of Philadelphia, commended the operation, and Trendelenburg's position for all pelvic operations, and pointed out the ease with which, having opened the bladder above the pubes, it was possible to catheterize the ureters.

Dr. Hunter Maguire, of Richmond, makes the urine acid by causing the patient to drink lemonade before operating, he does not use stitches, and for a permanent opening uses a silver plug.

Dr. Davis, of Birmingham, Ala., considered stitching unnecessary; and said that the silver plug was first used by his brother.

Dr. R. T. Morris, of New York, turns in skin flaps for a permanent opening; and uses a wick of gauze rolled in Lister protective, in place of a catheter, for drainage.

Dr. Palmer, of Wisconsin, simplifies the operation by introducing a large curved steel sound, per urethra, and cutting down upon its tip.

Dr. Deaver, of Philadelphia, considered the perineal operation safer and more rapid.

Dr. McRae, of Atlanta, Ga., uses saccharine internally to acidify the urine.

Dr. Wyeth said that he only used stitches when he desired to close the opening at once.

Platinum Needles for Electrolysis.—Dr. Robert Newman read a paper upon this subject; showed good and bad needles, and pointed out their difference, and told where the only good needles could be obtained in this country. The advantage of platinum, as a metal, for this use is that it is not oxydized or decomposed by electrolytic action, and this more than compensates for the fault that the metal is so easily bent.

The following officers were elected for the ensuing year: Chairman, Dr. J. McF. Gaston, of Atlanta, Ga.; Vice-chairman, Dr. Mordecai Price, of Philadelphia, Pa.; Secretary, Dr. F. W. Mann, of Detroit, Mich.

SECTION ON DISEASES OF CHILDREN.

FIRST DAY, TUESDAY, MAY 5TH.

WILLIAM PERRY WATSON, M.D., OF JERSEY CITY, CHAIRMAN.

The Sterilization of Milk and the Status of Our Knowledge upon the Subject, with Bacterial Demonstration.—DR. HENRY KOPLIK, of New York, read a paper on this subject. It is a positive fact that milk, as it comes from the cow, contains no bacteria. Its impurities get in later from various sources and consist of straw, dirt from the hands, manure-specks, etc. These exist, of course, in varying amounts in different specimens, and hence the great variations in the results of bacteriological investigations as to the number of germs which milk contains.

Pasteur found that the lactic acid fermentation with the separation of the casein was due to a specific microbe, without the presence of which the process could not occur, and furthermore, that these came from the air. If the latter was shut out the process did not occur. Even if milk was subjected to a temperature of 100° C., an alkaline fermentation might occur later, and this was probably of a butyric nature. If the temperature was raised to 230° F., and with a pressure of one and one-half atmospheres, no infusoria, bacilli, or germs of any kind were left in the milk. But there are practical disadvantages in using such milk as an infant food, even though it may be germ-free and theoretically just what we ought to use. It has been found by several observers that the casein undergoes some change in the various heat processes of sterilization by which its digestibility is affected, just how or why we cannot say. Some of these facts have been lost sight of in the great deluge of apparatus which has flooded the market. The ordinary methods of household sterilization are often faulty, and the mere fact that milk has been so treated that it will not sour if allowed to stand is by no means a full solution of the problem of making it an ideal food for an infant. It may later undergo an alkaline fermentation. This is probably often due to the common potato-germ which is everywhere about the farm and dairy, and which, along with its spores, does not succumb to that degree of heat which is sufficient to kill the lactic acid germ. Milk sterilized, so-called, will nevertheless grow certain other germs. While these latter can be destroyed, this very process of destruction renders the milk unfit for feeding to children, and hence our dilemma. It is of importance that the milk-containing vessels should be subjected to live steam, for at least twenty minutes, and forty-five minutes are really necessary for absolute safety. In the butyric fermentation, bubbles of carbonic acid gas were often formed. In some specimens crystals of leucin and tyrosine, along with peptone, were found. In these latter cases the culture-tube showed a cream zone at the top, then a clear watery mass, and at the bottom these crystals. This same peptone has resulted when milk has been inoculated with the streptococcus pyogenes. The germs of typhus, tuberculosis, diphtheria, and cholera all grow in milk without markedly changing its general characteristics. Fortunately, however, under ordinary circumstances, milk which is sterilized under the usual methods is safe to use, if it has been placed in the hands of the consumer with ordinary cleanliness, has been sterilized with live steam for thirty-five minutes, kept stoppered, and not kept too long. The bacteria of the alkaline fermentation are slow to develop, and hence, if the milk is daily prepared and each steamed product not kept over twenty-four hours, practically danger is avoided. The storage of sterilized milk is to be condemned, for fear of the later deleterious changes. It is not safe to use old preparations.

Concerning the digestibility of sterilized milk, much yet remained to be learned. Some had had success by adding pancreatin before steaming. Dr. Koplik preferred to add it after steaming, but before feeding. In selecting the amount for each meal we were to be guided neither exclusively by weight or age, but by the relation of the general condition of our patient to that of the average healthy child of the same age. Practically the various steam-cookers gave no better results than the ordinary kitchen utensils. The bottles should be placed in the utensil used and steamed ten minutes with their mouths uncorked, so as to expel all the residual air; then corked and steamed for forty-five minutes longer. Ordinary cotton batting, after being baked, made good stoppers. Absorbent cotton should never be used. A more careful supervision of dairies and the care of the milk while *en route* to the consumer would greatly simplify the problem.

The Chemistry and Clinical Value of Sterilized Milk.—DR. E. P. DAVIS, of Philadelphia, read a paper on this subject, giving the results of a series of chemical tests by Professor A. R. Leeds, with clinical observations of his own. Professor Leeds had found that in milk there were three classes of substances: 1. In suspension, nuclein (containing phosphorus), fat-globules, but without an albuminous envelope as has previously been believed, and floating in a ropy, mucilaginous fluid. 2. Casein and lact-albumin (colloidal bodies). 3. In solution, salts, soluble compounds of phosphoric acid, milk-sugar, and a starch-liquefying ferment. By sterilizing, the starch-liquefying ferment was destroyed, and coagulation followed. The lact-albumin was partially coagulated, thickening the milk and making it more ropy. The fat-globules were affected by heat so that the coagulated proteid material was attracted to them, and other minor changes were noted. The milk sugar was, by long heating, completely destroyed. The general conclusion was, that sterilized milk was less perfectly and completely digested than normal milk.

Dr. Davis's method, as used extensively by him, was to render the milk feebly alkaline by lime-water, then to raise the temperature to about 155° F. for six minutes, and if the preparation was not to be used immediately to heat it up to the boiling-point for a very brief period. Pancreatin was in all cases used. The later excess of heat stopped its action. He had used intestinal irrigation and antiseptics, and the three agencies combined had rendered him excellent service among a very unpromising class of patients. Constipation had sometimes resulted from sterilization. Cod-liver oil, especially when given with small doses of Fowler's solution, had been well assimilated in the foregoing cases. Some fed on the milk alone had benefited only temporarily, and had seemed to gradually perish of starvation; autopsy showed highly atrophic changes in all the organs. The prepared milk often served a useful purpose in supplementing a deficient supply of breast-milk, but infants were apt to do poorly on it when confined to it entirely.

DR. J. LEWIS SMITH, of New York, spoke of the various methods of dairy contamination. Yet, with all our imperfect manipulations of these later years, we had vastly reduced the infant mortality among foundlings and city children of all social grades. He believed that a two hours' exposure to boiling water was often necessary.

DR. E. F. BRUSH, of Mount Vernon, N. Y., did not believe that the souring of milk was its greatest danger. In all cud-chewing animals the young first swallowed the milk and of course it coagulated. It was then regurgitated and the curd chewed, after which it was again swallowed. The rennet coagulum was a softer one than the one formed with acid. He had often had his patients use milk soured after a thunder-storm and in a condition of "clabber," by beating it up thoroughly, and children fed thereon had suffered no harm. This procedure was by no means to be always advised. The rapid cooling of milk over cold tubes he regarded as highly objectionable. It would keep longer, but did not agree so well with children. He had not found by experiment that milk-sugar was completely destroyed by the alcoholic fermentation. As he had before stated at other

times, he believed that sterilization "devitalized" milk, though we did not know just what this process of devitalization was. Calves fed on normal milk had soft, large, yellow livers, while those fed on any of the artificial calves' foods had livers which were small, hard, and dark-colored, though they might be as fat as the others. This change in the inner organs was evidently due to their devitalized diet. An analogy was found in the liability to scurvy when the supply of fresh foods was cut off at his own farm. His cows kept for milking were all spayed. No animal should be used both for breeding and for milking. If consumers would pay more for milk and less for substances to put into milk, the dairyman could put a better and safer article on the market.

Dr. S. S. Adams, of Washington, D. C., had used milk which had been sterilized for ten days, with only good results. He believed that the preferable method was to dilute and scald it. He did not believe that sterilization necessarily caused or implied devitalization. We must judge of our results in private families, and not in hospitals, to form a fair estimate of any process. He used oatmeal-water in cases of constipation, and barley-water to break up the curd.

Dr. Simon Baruch believed that the lack of hydrochloric acid in the secretions of the child's stomach was the cause of most of the difficulty. In all households one bottle from each lot prepared should be set aside for one week, and its subsequent changes (if any) noted. In that way we could judge of the efficiency of our methods.

Dr. T. S. Latimer, of Baltimore, thought we laid too much stress on sterilization as a finality, rather than as one important link in a chain of conditions. The variation in weight, rather than the absolute weight itself, should guide us in our selection of the amount to be given at each feeding.

Dr. Bryce, of Toronto, gave an account of the process followed on a dairy farm near that city. The milk was received into clean vessels, filtered, and rapidly cooled to 45° or 50° F. within thirty minutes. By this process all the animal odors were removed. It was then kept in a refrigerator and delivered to the consumer within twenty-four hours. Used as delivered, without any further manipulation, it had given most excellent results after a three years' trial.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

THE VALUE OF TUBERCULIN IN SURGERY—THE EXTENSIONS OF THE MEDICAL CURRICULUM—CERTIFYING FACTORY SURGEONS—OPPOSITION TO THE NEW SCHEME FOR THE UNIVERSITY OF LONDON.

London, May 2, 1891.

An important communication on the value of tuberculin in surgery was presented to the Medical and Chirurgical Society at its last meeting by Mr. Watson Cheyne. The author said that in most of his cases he had adopted the mode of administration recommended by Dr. Koch (in which the occurrence of reactions was the guide to the dose), but that there were objections to this method and that he had for some time been employing another. This consisted in establishing tolerance as regarded the general action of the remedy as quickly as possible, and then repeating the doses in rapid succession so as to keep up a constant local action. If, for example, an initial dose of 2 milligr. produced fever, a second dose of the same amount was given as soon as the fever had subsided—probably in two days; so with a third. In most cases after four or five injections no further reaction occurred with this dose. The same dose was then given twice, and, after a few days thrice, daily The amount was afterward increased till ultimately doses of from one to two or more decigrammes were given three times a day. Mr. Cheyne believed that in this way a large amount of the fluid could be introduced rapidly without the patient suffering from fever after the first three or four doses, and with marked improvement as regarded the local condition. Another plan was to give large doses at long intervals, so as to avoid the establishment of tolerance. Mr. Cheyne condemned the method in common use of giving small doses at considerable intervals for the reason that it was hardly likely to do any good; it was also not unlikely to increase the risk of dissemination of the disease. The author pointed out, however, that the danger of dissemination of the disease had been greatly exaggerated, and that the main danger was where the tubercular disease was combined with sepsis, and was due to extension, not of the tubercular, but of the septic process. Passing on to the consideration of what the treatment could do Mr. Cheyne said he had come to the conclusion that in the majority of cases its first effect was to produce improvement as regarded the tubercular disease, the degree of improvement varying according to the circumstances of the case and the mode of application of the remedy; but that this improvement rarely went on to complete cure unless aided by other measures. In most cases, improvement came to a standstill after a time, and, if the treatment were given up at this stage, or within three months and a half (the limit of Mr. Cheyne's experience), relapse would almost certainly occur. The great question—one, however, which affected medicine more than surgery—was whether by continuing the treatment with this object in view the condition of standstill could be maintained in a number of cases for a considerable time. The author had found that it could be maintained for four months and a half, but it seemed not improbable that it could be maintained longer, and of course the longer it was maintained the greater the probability that the tubercle bacilli would die out, and the improvement become permanent. With regard to the value of tuberculin in surgical practice Mr. Cheyne said he had arrived at the following provisional conclusions:

That in cases of intractable lupus it was of great value when combined with other measures. In cases of tubercular glands it hardly repaid the trouble and inconvenience, except in so far as it might reduce the periadenitis, and thus pave the way for operative measures. In diseases of joints its place could as yet hardly be settled, but it was best not to employ it in the early stages, but to reserve it as a means, after operation, of aiding the prompt healing of the wound; it might be of value in enabling the surgeon to perform less severe and radical operations than he might otherwise do. In cases of bone disease it would probably only be useful after operation. In genito-urinary tuberculosis it could seldom come into play—one reason being the great frequency with which these diseases were combined with sepsis. In tubercular laryngitis it appeared to be of use in certain cases. While admitting the small value which could be attached to his opinion as regarded phthisis, Mr. Cheyne said he could not but think that the dangers of Koch's treatment in that disease had been unduly magnified and its benefits unduly decried. The discussion on Mr. Cheyne's communication was deferred to a meeting of the Society to be held next week.

The question as to the extension of the medical curriculum is one which involves many difficulties in the settlement of details. At a meeting held on April 30th, the College of Physicians (or rather the Fellows thereof, for Members have no voice) formally approved of the curriculum being lengthened to five years, but how the extra year is to be spent by the student is a point reserved for further consideration. Many of those interested in medical education urge that any reform should begin at the bottom, and that the standard of the preliminary examination in the subjects of general education should be raised considerably. This, however, is a matter with which neither the College of Physicians nor the College of Sur-

geons has the power to deal, but only the General Medical Council.

The Government has abandoned the proposal to abolish the posts of certifying factory surgeons.

A strong opposition to the new scheme for the reconstruction of the London University is being organized among the members of Convocation.

VARIOLA ON THE SCOTIA.

To the Editor of the Medical Record.

It was a surprise to notice in the *London Lancet* of a recent date a communication from Dr. Barnett, late surgeon of the steamship Scotia, giving his experience recently at the New York Quarantine. It was the impression here that the least said about the doctor's management of the cases referred to by him, the better it would be for his reputation.

The facts are these, as shown by the following report to me by Deputy Health Officer E. C. Skinner; and except so far as they relate to the deputy's personal interco urse with Dr. Barnett, they are confirmed by the personal observation of the undersigned.

The steamer Scotia arrived at Quarantine, February 8, 1891, from Mediterranean ports, with a case of variola discreta among the immigrants, which was discovered while inspecting them. At Palermo, on January 11th, four hundred and eighty-four Italians embarked; among them one Storella Pasquale, who was the victim of the dis ease mentioned. This man was vaccinated by the Scotia's doctor January 23d. Three days later (January 26th) the man developed an eruption. This eruption, thirteen days later, on arrival at this Quarantine, was distinct on all parts of the body, including the palmar and plantar surfaces, although many of the crusts had exfoliated, the disease evidently being modified by vaccination in childhood. Dr. Barnett, the surgeon of the Scotia, claimed it was a case of *vaccinia*.

The doctor failed to show how it was possible that such an eruption as this man had could be the result of a vaccination made three days previously. Dr. Barnett's attempt to cover his ignorance of the character of the disease by a tirade of abuse of the Deputy Health Officer, as reported by him, and his talk of having an "investigation," induced the Health Officer to request an opinion from the physicians of the New York Contagion Hospital, to which the patient was removed. The following certificate of diagnosis was given:

"February 11, 1891.

"We, the undersigned, hereby certify that the case of Storella Pasquale, aged about twenty-five years, an Italian immigrant from the steamship Scotia, was examined at Reception Hospital, February 9, 1891, having been brought there by the Health Officer of the Port, and we find that the case is variola discreta, or varioloid, about the fourteenth day of its development, the pustules having dried down and in most part exfoliated.

"This diagnosis cannot be questioned.

"F. W. Lester, M.D.,
Resident Physician Willard Parker Hospital.
"F. H. Dillingham, M.D.,
Inspector Contagious Diseases."

Subsequently to the removal of the case of small-pox to hospital, and while the steamer was being disinfected, the Health Officer took occasion to express to the captain of the Scotia his regret for the necessity for the detention of his steamer. Captain Crockhart replied, "Oh, well, there are two other cases among the passengers just like the one sent to hospital." This remark indicated that either the medical officer who inspected the passengers was at fault in not discovering the cases, or that the captain concurred with the doctor in his belief that the case removed was not small-pox.

The two cases referred to, and which Dr. Barnett asserted were typical cases of secondary vaccination, were therefore taken from the steamer and sent to the New York City Reception Hospital for Contagious Diseases, with a request that a certificate of diagnosis should be sent to the Health Officer.

The following certificates were the result:

"February 11, 1891.

"We, the undersigned, hereby certify that the case of Salvatore Elia, aged about ten years, was examined by us this day at Reception Hospital, where he was brought by Dr. William M. Smith from the steamship Scotia, is one of pediculosis, the eruption having been caused by these parasites. There is no evidence of variola, eruptive *vaccinia*, or other eruptive disease.

"Cyrus Edson, M.D.,
Chief Inspector Health Department.
"F. H. Dillingham, M.D.,
Inspector Contagious Diseases.
"F. W. Lester, M.D.,
Resident Physician Willard Parker Hospital."

"February 11, 1891.

"We, the undersigned, hereby certify that Maria Lajora was brought to Reception Hospital from the steamer Scotia by Dr. William M. Smith, and examined by us. We find her suffering from eczema, due to vermin, and self-vaccination from the vaccinal sores from previous vaccination.

"There is no evidence of variola or other eruptive disease.

"Cyrus Edson, M.D.,
Chief Inspector Health Department.
"F. H. Dillingham, M.D.,
Inspector Contagious Diseases.
"F. W. Lester, M.D.,
Resident Physician Willard Parker Hospital."

The Scotia was thoroughly disinfected in every steerage by sulphurous acid gas, particular attention being given to the one occupied by Pasquale Storella, as thoroughly as hundreds of other steamers that had small-pox on arrival at this Quarantine, and from which, in not a single instance, has the contagion of the disease been communicated after being disinfected.

The ignorance, inexperience, carelessness, or neglect of some of the medical officers of passenger steamers is the occasion of infinite vexation and anxiety to Quarantine officials, and of delay and expense to passenger steamship companies.

William M. Smith, M.D.,
Health Officer Port of New York.

Health Officer's Department, State of New York,
Quarantine, S. I., May 11, 1891.

HOW LAWSON TAIT DOES A SUPRA-PUBIC CYSTOTOMY.

To the Editor of the Medical Record.

Sir: I have recently had the pleasure of seeing Mr. Tait do a supra-pubic cystotomy for stone in the bladder which was of peculiar interest from the difficulty of the case, and from the, to me, unique method of operating. The patient, a man well up in years, was very stout, weighing I should think three hundred pounds, with an abdominal wall fully five inches thick over the bladder, which rendered the operation exceedingly difficult. This difficulty, however, seemed to rather please the fancy of the operator than otherwise.

The patient being under the anæsthetic, all rules laid down by other surgeons in this operation were ignored by Mr. Tait as unnecessary and a waste of time.

With no rectal bag in rectum, no fluid in the bladder to distend it and push up the peritoneum, and not even a sound in the bladder as a guide, he cut rapidly down through the abdominal wall to muscle, on reaching which he divided the tendon transversely, closely hugging the pubic arch to avoid the peritoneum, and with a finger in the wound

felt for and found the viscus. Without waiting to sponge away blood, he caught up the wall of the bladder with a couple of pairs of long forceps, and between them opened into it with the point of a scalpel in the same way as he would the peritoneum in abdominal section. Then with a finger in the bladder he explored it, and passing in a pair of placental forceps caught and dragged out a stone measuring two inches by one and one-half inch.

He completed the operation by introducing an abdominal glass drainage-tube to the floor of the bladder, partially closing the bladder-wound by a suture above and below the tube, and the external wound by a few sutures on each side of the tube. The whole operation from start to finish did not last ten minutes. H. MEEK, M.D.

LONDON, ONTARIO.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from May 10, 1891, to May 16, 1891.

PATOZKI, JULIUS H., Major and Surgeon. By direction of the Acting Secretary of War, par. 5, S. O. No. 24, January 29, 1891, from this office, granting six months leave of absence, is so amended as to grant said leave on surgeon's certificate of disability. S. O. 99, par. 15, A. G. O., May 1, 1891.

CLARKE, JOSEPH T., First Lieutenant and Assistant Surgeon. Relieved from duty at Fort Riley, Kan., and will report in person to the commanding officer at Camp Poplar River, for duty at that station, relieving First Lieutenant Jefferson D. Poindexter, Assistant Surgeon. S. O. 102, par. 14, A. G. O., Washington, D. C., May 5, 1891.

POINDEXTER, JEFFERSON D., First Lieutenant and Assistant Surgeon. On being relieved by Lieutenant Clarke, will report in person to the commanding officer at Fort Niobrara, Neb., for duty at that post. S. O. 102, par. 14, A. G. O., Washington, D. C., May 5, 1891.

MCCAW, WALTER D., Captain and Assistant Surgeon. Relieved from duty at Fort McPherson, Ga., and will report in person to the commanding officer at Camp Pilot Butte, Wyo., for duty at that post, relieving Captain George E. Bushnell, Assistant Surgeon. S. O. 102, par. 14, A. G. O., Washington, D. C., May 5, 1891.

BUSHNELL, GEORGE E., Captain and Assistant Surgeon. On being relieved by Captain McCaw, will report in person to the commanding officer at Fort McKinney, Wyo., for duty at that post. S. O. 102, par. 14, A. G. O., Washington, D. C., May 5, 1891.

EDIE, GUY L., Captain and Assistant Surgeon. Relieved from duty at Fort Douglass, Utah Ter., and will report in person to the commanding officer at Fort Niobrara, Neb., for duty at that post, relieving Major Timothy E. Wilcox, Surgeon. S. O. 102, par. 14, A. G. O., Washington, D. C., May 5, 1891.

WILCOX, TIMOTHY E., Major and Surgeon. On being relieved by Captain Edie, will report in person to the commanding officer at Fort Huachuca, Ariz. Ter., for duty at that post. S. O. 102, par. 14, A. G. O., Washington, D. C., May 5, 1891.

CABELL, JULIAN M., First Lieutenant and Assistant Surgeon. Relieved from duty at Fort Niobrara, Neb., and will report in person to the commanding officer at Fort Buford, N. Dak., for duty at that post, relieving Major Valery Havard, Surgeon. S. O. 102, par. 14, A. G. O., Washington, D. C., May 5, 1891.

HAVARD, VALERY, Major and Surgeon. On being relieved by Lieutenant Cabell, will report in person to the commanding officer at Fort D. A. Russell, Wyo., for duty at that post. S. O. 102, par. 14, A. G. O., Washington, D. C., May 5, 1891.

GIRARD, JOSEPH B., Major and Surgeon. Relieved from duty at Alcatraz Island, Cal., and will report in person to the commanding officer at Benicia Barracks, Cal., for duty as post surgeon at that post, and attending surgeon at Benicia Arsenal, Cal., relieving Major John H. Janeway, Surgeon. S. O. 102, par. 14, A. G. O., Washington, D. C., May 5, 1891.

JANEWAY, JOHN H., Major and Surgeon. On being relieved by Major Girard, will repair to Philadelphia, Pa., and assume the duties of Attending Surgeon and Examiner of Recruits in that city, and in addition to his duties at Philadelphia, will perform the duties of Post Surgeon at Frankfort Arsenal, Pa. S. O. 102, par. 14, A. G. O., Washington, D. C., May 5. 1891.

LAGARDE, LOUIS A., Captain and Assistant Surgeon. Relieved from duty at Fort Assiniboine, Mont., and will report in person to the commanding officer at Fort McHenry, Md., for duty at that post, relieving Major Charles B. Byrne, Surgeon. S. O. 102, par. 14, A. G. O., Washington, D. C., May 5, 1891.

BYRNE, CHARLES B., Major and Surgeon. On being relieved by Captain LaGarde, will report in person to the commanding officer at Fort Assiniboine, Mont., for duty at that post. S. O. 102, par. 14, A. G. O., Washington, D. C., May 5, 1891.

KENDALL, WILLIAM P., Captain and Assistant Surgeon. Relieved from duty at Fort D. A. Russell, Wyo., and will report in person to the commanding officer at Fort Douglass, Utah Ter., for duty at that post. S. O. 102, par. 14, A. G. O., Washington, D. C., May 5, 1891.

MCKEE, JAMES C., Lieutenant-Colonel and Surgeon. Having been found incapacitated for active service by an Army Retiring Board, is, by direction of the Acting Secretary of War, granted leave of absence until further orders, on account of disability. S. O. 106, par. 11, A. G. O., Washington, D. C., May 9, 1891.

BIRMINGHAM, HENRY P., Captain and Assistant Surgeon. By direction of the Acting Secretary of War, the extension of ordinary leave of absence granted in S. O. 81, A. G. O., April 10, 1891, from this office, is changed to leave of absence on account of sickness, to date from May 1, 1891. S. O. 108, par. 4, A. G. O., Washington, D. C., May 12, 1891.

BACHE, DALLAS, Lieutenant-Colonel and Surgeon. By direction of the Acting Secretary of War, is relieved from duty as a member of the Army Medical Examining Board, New York City, and will return to his proper station, Omaha, Neb., and resume his duties as Medical Director, Department of the Platte. S. O. 108, par. 5, A. G. O., Washington, D. C., May 12, 1891.

Official List of Changes in the Medical Corps of the United States Navy for the week ending May 16, 1891.

BRADLEY, G. P., Surgeon. Detached from the Mohican and placed on waiting orders.

WALTON, T. C., Medical Inspector. Ordered to Naval Academy, to examine applicants physically for admission.

BRIGHT, GEORGE A., Surgeon. Ordered to Naval Academy, to examine applicants physically for admission.

STEELE, J. M., Passed Assistant Surgeon. Ordered to Naval Academy, to examine applicants physically for admission.

DICKSON, S. H., Surgeon. Ordered to the Constellation.

RUSH, WILLIAM H., Passed Assistant Surgeon. Detached from the Saratoga, and ordered to await duty to sea.

ATLEE, S. W., Passed Assistant Surgeon. Detached from Navy Yard, League Island, and ordered to the Saratoga.

Brownell, C. De W., Assistant Surgeon. Ordered to Navy Yard, League Island.

Streets, T. H., Surgeon. Detached from Naval Examining Board, and ordered to prepare for sea.

Mackie, B. S., Surgeon. Ordered as member of Naval Examining Board.

Curtis, L. W., Passed Assistant Surgeon. Detached from Naval Academy, and ordered to the Practice Ship Constellation.

Leach, Philip, Passed Assistant Surgeon. Orders to Practice Ship Constellation revoked.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending May 16, 1891.

	Cases.	Deaths.
Typhus fever	1	0
Typhoid fever	18	5
Scarlet fever	241	34
Cerebro-spinal meningitis	3	3
Measles	392	22
Diphtheria	90	21
Small-pox	0	0
Varicella	2	0
Pertussis	1	11
Erysipelas	0	0
Mumps	1	0
Rötheln	0	0

Malaria is said to be unknown in New Zealand.

Obligatory Vaccination.—The Paris Academy of Medicine has been engaged for some time in a discussion of the question of obligatory vaccination in France, the general opinion being that, in spite of some disadvantages, the measure would be productive of good.

Salol in Typhoid Fever.—Dr. Frank P. Wilson, writing in the *Southern Clinic* for March, 1891, says that he has found salol to be a very unsatisfactory remedy in rheumatism, but that in infantile diarrhœa he has found its administration attended with very good results. The use of one grain of the drug every four hours promptly checked the diarrhœa, and the continued administration of the remedy two or three times a day for a few days effectually prevented a relapse. In typhoid fever he had had very favorable results, and in all cases in which he had given it from the onset of the disease there was no tympanites, no diarrhœa, no dry tongue, nor sordes on the teeth. Even when the treatment was begun late in the course of the disease, when the symptoms were already grave, the whole condition was changed for the better within two days by two- or three-grain doses of salol every four hours. He did not believe that the duration of the fever was shortened at all, but all the symptoms were ameliorated, delirium was kept away, and the patient preserved a desire for food, usually waiting anxiously for the milk hour to come around. One grain of salol was given every four to six hours, except when there was severe diarrhœa, when the dose was doubled for a short time.

The Dose of Tuberculin.—At the Moabit Hospital in Berlin, treatment with Koch's fluid was commonly commenced with a dose of one milligramme, but latterly one-tenth of a milligramme only has been used in many cases, and increased by one-tenth of a milligramme a day for ten days, then by two-tenths every other day, until the amount has reached two or three milligrammes, when the increase is made half a milligramme.

Who Discovered the Comma-bacillus?—Dr. Brittan, who died a few weeks ago in London, claimed to be the discoverer of the comma-bacillus, and was endeavoring to establish his right to be so regarded by the world. Concerning his claims, Dr. J. Mortimer Granville wrote to the *Times* as follows: "I have just come from the death-chamber of the real discoverer of the comma-bacillus of cholera, a discovery which Professor Koch has since arrogated to himself, not hesitating to call it by his own name as the 'Koch comma-bacillus.' . . . Dr. Brittan only a few days ago placed the original papers in my hands for his vindication, he having come to London partly for that purpose. This afternoon I was summoned to find him dead, being stricken down with heart disease on the stairs of the house where he was lodging. It is too late now to do him justice; but there are some, at least, still living who worked with him in the old days, and who will not fail to honor the memory of a physician who was not only an expert of rare ability in microscopy, as applied to the investigation of disease, when that enterprise was in its infancy, but who was, in a very practical sense, the father of the whole bacteriological system, and, as such, the pioneer of a work which has not yet done more than show a little of its vast capability in the health-service of humanity."

The Man that will give to the world an unfailing remedy for sprains shall have his name writ high upon the wall of the temple of fame, and his praises shall be sung through long ages by the bards of a grateful humanity.

BOOKS RECEIVED.

Studies of Old Case-Books. By Sir James Paget, Bart. 8vo, 168 pages. Price, $3.00. Longmans, Green & Co., New York.

Thirteenth Annual Report of the Connecticut State Board of Health, for the Year Ending November 30, 1890. 8vo, 326 pages. Containing also Registration Report of Bureau of Vital Statistics for Year Ending December 31, 1889. 196 pages.

Historical Sketch of the University of Maryland School of Medicine (1807–1890). By E. F. Cordell, M.D. 8vo, illustrated, 218 pages. Price, $2.00.

Medical Symbolism in Connection with Historical Studies in the Arts of Healing and Hygiene. By T. S. Sozinskey, M.D., Ph.D. 12mo, illustrated, 171 pages. Price, $1.00. F. A. Davis, Philadelphia, Pa.

Fever: Its Pathology and Treatment by Antipyretics. By H. A. Hare, M.D. 12mo, 166 pages. Price, $1.25. F. A. Davis, Philadelphia, Pa.

Materia Medica and Therapeutics. By J. V. Shoemaker, M.D. Vol. II. 8vo, 1,004 pages. Price, muslin, $3.50; sheep, $4.50. F. A. Davis, Philadelphia, Pa.

Surgery: A Practical Treatise, with Special Reference to Treatment. By C. W. Mansell Moullin, M.D., assisted by various writers on special subjects. 8vo, 1,180 pages, illustrated. P. Blakiston, Son & Co., Philadelphia, Pa.

Transactions of the New York State Medical Association for the Year 1890. Vol. VII. 8vo, 634 pages, illustrated.

Text-book of Ophthalmology. By E. G. Loring, M.D. Edited by F. B. Loring, M.D. Part II. 8vo, 260 pages, illustrated. Price, $5.00. D. Appleton & Co., New York.

Surgical Bacteriology. By N. Senn, M.D. Second edition, revised. 8vo, 271 pages, illustrated. Price, $2.00. Lea Brothers & Co., Philadelphia, Pa.

A Practical Treatise on Diseases of the Skin. By H. G. Piffard, M.D., assisted by R. M. Fuller, M.D. 4to. 159 pages, illustrated. D. Appleton & Co., New York.

Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 39, No. 22.
Whole No. 1073.

NEW YORK, MAY 30, 1891.

$5.00 Per Annum.
Single Copies, 10c.

Original Articles.

OPIATES IN ACUTE PERITONITIS.

BY STEPHEN SMITH, A.M., M.D.,

NEW YORK.

PROFESSOR ALONZO CLARK, in his article on "Peritonitis," in "A System of Practical Medicine," makes the following statement: "In 1840 there was a very fatal visitation of puerperal fever in this (Bellevue) Hospital. . . . I was a daily visitant and took notes of all the cases. . . . The disease was fearfully fatal, although every known mode of treatment was tried in different cases. . . . But all, with one or two exceptions, with the same result. At this time the opium plan was on its trial, and I had not acquired a confidence in it that authorized me to try it in these cases. The time for it came in 1851. Then a sudden, vigorous attack occurred. One woman was sent to me in whom the disease was well advanced. I instructed my house physician, not how much opium to give, but what effects to produce by it. I found this woman dying next day, and that she had taken only three grains of opium in three doses. In three or four days, seven cases were sent to me from the lying-in-wards. One was returned for error in diagnosis, and six put under treatment. Having found that prudence was so much more conspicuous in my house physician than courage, another house officer, who combined them both, was selected to be in almost constant attendance. The instructions were in these words: 'I want you to narcotize those women to within an inch of their lives.' He did it, and saved every one of them. This gentleman is now known over the whole land as a learned and distinguished surgeon. I feel called upon to give his name in this connection that he may be a witness to the facts I state, and for the admiration with which his nerve and prudence impressed me."

It is an interesting fact that Professor Clark failed to give the name of the gentleman he so highly complimented, and whom he thus publicly called to witness to the truth of his statement. As I was then a resident student in Bellevue Hospital, and had the care of the six cases to which he alludes, I assume that I am the person referred to, and will take this occasion to witness to the facts Professor Clark brought forward in his paper.

At the period mentioned by Professor Clark Bellevue was a hospital in name only. The buildings were erected in the early part of the century—1811–16 for prison and alms-house purposes. They were chiefly built on ground reclaimed from the river, and without underdrainage or sewerage. The buildings were very massive in construction, and in the prison style of that day, without pretence of ventilation. For a quarter of a century Bellevue was little else than a prison or a pest-house. All forms of contagious and infectious diseases were received into its crowded and illy ventilated wards. At various times yellow fever, typhus, and typhoid fevers, small-pox and cholera have been the prevailing diseases of its inmates.

The evolution of this establishment into a hospital was a very slow process. The prisoners were first removed to the Island, and gradually all the able-bodied paupers were provided with quarters in the new alms-house. In time only the sick poor were detained at Bellevue, and the institution assumed the general aspect and character of a hospital. In 1840, the date to which Professor Clark alludes, the hospital had a resident physician who was the sole authority in managing its general and medical affairs. The appointment was purely political, and the government was of the same character. In 1846–7 there came a complete change in the administration of the institution by the selection of a competent medical board, and the final retirement of the resident physician. At this latter date Bellevue, as an organized hospital, had its origin.

There was, however, comparatively little improvement in the sanitary condition of the hospital buildings for many years. Gradually, better ventilation was secured and the general cleanliness of the wards and beds was improved.

The maternity wards of Bellevue were at this early date in the same condition as the other wards. They were not specially separated from the other wards except that they were situated at the extreme end of one of the wings. The number of confinements averaged one daily, usually, though they occasionally reached the number of sixty in a month.

Puerperal fever was the great scourge of the hospital at that period. Whenever it appeared nothing seemed to control its progress and no treatment saved its victims from a speedy death. These facts are confirmed by referring to the outbreak in 1840, alluded to by Professor Clark, and reported by Dr. Vaché, the resident physician. The latter states that "the disease made its appearance on January 12, 1840, and was quickly followed by two more cases apparently so malignant that it was immediately determined to vacate the room with a view to its purification. The inmates were accordingly removed and the apartment, whitewashed, ventilated, and scrubbed; the bedsteads were cleansed; new beds and bedding introduced, and at the expiration of about a week it was considered sufficiently disinfected to return to it in safety. But the disease immediately reappeared equally as violent and irremediable as before, and it was concluded most judicious to abandon the building. As promptly as it could be accomplished, another, some distance from the almshouse, and appropriated for a nursery, was put in the most perfect order, the bedsteads were cleansed and painted; new beds and bedding were furnished; the physician and nurse were changed; the pregnant women were directed to cleanse their persons by bathing, new clothes, even shoes, were given to them immediately previous to transferring them to their new habitation, and all intercourse arrested with the inmates of the surrounding premises. Notwithstanding these precautions, the first woman confined and subsequently four others in succession out of five labors were attacked with the disease, and in every case it was fatal. A further effort in the cause of human life, and as the only rational means of arresting this terrible scourge was the total abandonment of the lying-in establishment at Bellevue; this was done without delay."

To the earlier resident medical students at Bellevue Hospital this sketch presents a graphic but familiar picture of an outbreak of puerperal fever in the years 1840–51. Cleanliness and isolation of patient and physician

[1] Address before the Fifth, or Southern, District Medical Association, held in Brooklyn, N. Y., May 26, 1891.

were the chief preventive measures employed, but they were powerless to control the spread of the disease.

The mortality reported by Vaché was appalling. Of 21 cases. 19, or over ninety per cent., proved fatal. Nor was this death-rate unusual, as we learn from other sources.

It is important to notice the pathological conditions which were found to exist in the fatal cases. Careful autopsies were made in 17 of these cases. The records of these autopsies, as published by Dr. Vaché, were made by Professor Clark, for he states that he was a daily visitor and took notes of all the cases; and that it was from these notes that Vaché compiled his report of the epidemic.

In 16 of the 17 cases examined post mortem there was, according to these notes, peritonitis. In these cases there was effusion into the peritoneal cavity, which is variously described as "sero-purulent" and "sero-lymphatic." In 17, or all of the cases, the uterus was examined, and the pathological changes reported. In two cases this organ appeared to be without any special change. In the remaining cases the alterations were those due, apparently, to metritis. In several there were putrefactive changes of matters within the cavity, as the remains of the placenta and the natural discharges after child-birth. The following is an example: "The cavity of the uterus was covered over, from the fundus down to the cervix, with a dark, chocolate, stringy, fetid substance which was easily scraped off with a knife, showing the surface beneath injected; the cervix was covered with a firmly adherent substance, of a greenish-gray color, with spots of white; the os uteri was of a dark purple color: beneath the peritoneal surface of the uterus there was much lymph deposited."

In several instances pus was found in the ovaries and fallopian tubes. Pus was also found in considerable quantity between the uterus and bladder. In one case many peritoneal bands had formed, binding the viscera together; an abscess four inches in diameter separated the peritoneum from the walls of the abdomen; the sub-peritoneal cellular tissue of the pelvis and extending nearly to the kidney resembled lint soaked in pus; numerous deposits of pus were found under the peritoneal covering of the uterus, in the broad ligaments, ovaries, and fallopian tubes; the left internal iliac vein was closed by a firm clot which extended into the gluteal, ischiatic, and obturator branches, and in the clot were found collections of pus."

The records of these autopsies were more or less accurately repeated on every recurrence of puerperal fever at Bellevue Hospital between the years 1840–1851. They undoubtedly may be taken as illustrating the ordinary form of puerperal peritonitis, when that disease prevailed in this hospital.

It is important, also, to notice the treatment of these cases, which is given in considerable detail. Of the two cases which recovered, the principal treatment in one was saline cathartics, wet cups to the abdomen, and opiates; and in the other venesection and leeches to the abdomen. Of the fatal cases, four were treated with saline cathartics and venesection, chiefly; in eight, calomel in scruple doses was given, combined with venesection and leeches; in ten, venesection was the more important feature in the treatment, combined in five cases with leeches; in five cases turpentine, as a cathartic, was largely employed. In one, large doses of cinchona bark were used, as recommended by Dr. Burns, and later, turpentine as a purgative.

It will be seen that the treatment was so mixed that it would be difficult to draw any conclusions as to the efficiency, or rather inefficiency, of any one remedy. Still it is noticeable that purgatives were actively and efficiently employed in seventeen of the twenty-one cases, and that in five cases the cathartic was salts. In the other cases, calomel and turpentine, two approved antiseptic remedies, were administered freely. Opiates in the form of opium and Dover's powder were given in most cases, but in small and occasional quantities.

This review of the outbreak of puerperal fever in 1840 may be regarded as fairly illustrating the average features of the recurring appearances of the scourge in the lying-in wards of Bellevue Hospital, prior to the year 1851. Professor Clark truly says: "Up to the time when the opium treatment was adopted peritonitis was a fearful word; a large proportion of those attacked by it, died of it."

I was one of the resident staff of surgeons of Bellevue Hospital in 1851, and well remember the excitement created when the first case of puerperal fever was announced. To the visiting staff it meant a hopeless struggle with a violent pestilence, and to the resident staff the loss of the obstetric service, which was highly prized. Professor Clark had already in his lectures, and especially in the Pathological Society, advanced the opinion that opium might prove to be a successful remedy in peritonitis. He related his experience in cases which he saw in consultation with physicians in Vermont, where he lectured during the autumn months. He says, in regard to his experience: "I found that they were treating the disease on the Armstrong plan; that is, bleeding freely, and then administering a full dose of opium, as they said, 'to prolong the effects of the bleeding.' In most cases there was a second bleeding and a second administration of opium. I found they were getting better results than we were in New York, and I studied their cases as closely as I could, and reached the conclusion that opium was the curative agent, and that it would be safe to omit the abstraction of blood. The conviction grew in strength with every new case and I saw several cases with different physicians. . . . The idea then formed was, that to establish the narcotic effects of opium within safe limits, and continue them by repeated administration of the dose, would cure uncomplicated peritonitis; that a kind of saturation of the system with opium would be inconsistent with the progress of the inflammation, and would subdue it. There was no theory to build the treatment upon, and no explanation of the action of the drug, in my mind. What I saw of the action of two doses of opium was the only foundation for the idea."

The first case of puerperal fever in the outbreak of 1851, in Bellevue, resembled in all its peculiarities those of previous epidemics. The onset was violent, the symptoms characteristic and the termination rapidly fatal. The patient was early transferred to Professor Clark's ward and there were great anticipations of the success of the opium treatment. The uninterrupted progress of the disease to its fatal termination, in spite of the opium administered, produced a very unfavorable impression upon the visiting physicians as to the alleged value of this remedy. Professor Clark declared, however, that the opium had not been fairly tested, for it was found that the drug had been given in such very small quantities that no such effects could have been obtained as he intended or desired.[1]

Three new cases were soon after transferred to Professor Clark's care; then two more and then one, making in all six. They occupied a separate ward and Professor Clark determined to make a thorough test of the opium treatment. Special nurses were provided and I was selected as the immediate medical attendant. His instructions were very explicit. He required that I should aim to see the patients every hour; should closely watch the pulse and respiration, and personally see that the medicine was regularly given. In regard to the opium, he stated that I must not be governed at all by the amount administered, but by the effects produced. The condition of the patient to be secured was that of semi-

[1] "The drug symptoms to be produced," Professor Clark says, "are subsidence or marked diminution of the pain; some or considerable tendency to sleep; contraction of the pupils; reduction of the breathing to twelve respirations in the minute; in the favorable cases, a considerable reduction in the frequency of the pulse; a gentle perspiration; an itchy state of the skin and oftener of the nose; absolute inactivity of the bowels; and after a time, a subsidence of the tumor and tenderness in them; some suffusion of the eyes."

narcotism; this was to be determined by the degree of stupor and the respiration; the patient must require to be shaken to be aroused to consciousness; and the respiration might fall to twelve per minute, but not below that figure. In concluding his instructions he inquired if I had ever heard the school-master say, "I will whip you within an inch of your life." And being assured that I was familiar with the expression and its significance, he said, "I wish you to give these patients opium to within an inch of their lives."[1]

The treatment was immediately begun. The opiates were given in the form of morphine, solid opium, and laudanum, but the quantity of each was accurately determined by the apothecary and estimated in grains of opium. At the outset each patient received one grain of opium every hour, for three doses. No effect being perceptible, the dose was increased to two grains every hour and continued for three doses. Failing with this dosage, the opium was increased to three grains every hour. In four cases this amount of opium had the desired effect, and it was continued in that amount. In the remaining cases, it had to be increased to four grains every hour. One of these remaining cases yielded to this amount, and the opiate was continued at that rate. The other, or sixth case, was much more obstinate, and the opium was steadily increased until the dose reached twelve grains every hour. This amount simply secured a light but continuous sleep, from which she readily awoke on placing the hand upon her wrist to examine her pulse.

The first four cases continued to receive three grains of opium every hour for three or four days, when the pulse fell to its normal standard, the tympanites subsided, the tenderness of the abdomen disappeared, and the patients were evidently convalescent. The opium was discontinued. They rapidly recovered and remained well.

In the fifth case an episode occurred, which Professor Clark mentions, but not accurately. The patient was a tall young woman, having a pale and somewhat cadaverous face. On the fourth night, while the four-grain doses of opium were being given, the nurse failed to wake me at the usual hour and I overslept two hours. On awakening and noticing the time that had elapsed, I hastened to the ward. The nurse was sleeping soundly in her chair. The patients were all sleeping heavily and apparently doing well, except the fifth. On approaching her bedside, I was struck with her death-like pallor, heightened by the feeble light of a candle, on an opposite shelf; her half opened eyes; her fallen jaw, and the absence of pulse. I stood a moment quite paralyzed at the thought of my neglect, and that of the nurse, when I noticed that she gasped. There was an interval, and then another gasp. I counted these efforts at respiration, and found that the fourth occurred just after the minute had expired.[2]

I at once roused the nurse, and took active measures to recover the patient from her profound narcotism. After several hours continuous effort, she was regarded as securely restored. All the symptoms of peritonitis now rapidly subsided; the pulse had falled from 112 to 92 per minute; the tympanites and tenderness had disappeared, and she expressed herself as feeling well. Within twenty-four hours all the evidences of peritonitis recurred, and the treatment was renewed, three grains of opium being given instead of four. Semi-narcotism was readily produced, and after a brief period the symptoms again subsided, the treatment was suspended and she was permanently cured.[1]

The sixth case proved an anomaly in tolerance of opiates. During twelve days the treatment was persevered in, the pulse remaining at about 120; the respirations 34 to 36; the abdomen greatly distended and tender to the touch; lancinating pains; the features pinched; perspiration at intervals, etc. During these twelve days this patient took the equivalent of 1,950 grains of opium and she neither vomited during that time nor had she an evacuation of her bowels.[2] At no time was she so narcotised that she would not awaken when any one placed his hand on her wrist. She remained in the hospital as an assistant in the laundry for six months after her recovery, and during that time she was in excellent health.[3]

[1] The following notes of one of these cases contributed by Professor Clark to Keating's edition of Ramsbotham's System of Obstetries illustrates the symptoms and progress of the disease while under treatment, and will prove instructive to those unfamiliar with this method of medication:

A. H——, aged twenty, married, delivered of her first child October 1, 1851. The labor was natural and of the usual duration; convalescence was not attended by any untoward symptoms except a slight diarrhœa. . . . On the tenth day after confinement she was seized with a chill at 10 A.M.; chill lasted an hour; the abdomen was markedly tympanitic and extremely tender, and the seat of lancinating pains which caused sobbing; pulse 120; respiration thoracic; tongue clear. Ordered solution sulph. morph. (gr. xvi., to aquæ, ʒj.), ♏. x. every hour. She slept most of the day and succeeding night quietly, but not profoundly.

Second day, 10 o'clock.—Tympanites increased; tenderness somewhat diminished; extreme thirst; occasional vomiting of a bright green fluid; bowels quiet; lochia had ceased previous to attack; pulse, 120; other symptoms as before. It was obvious that not much impression had been made upon the disease in the first twenty-four hours, and the solution was given ♏. x. every half hour. This produced sleep, and by evening the pulse had fallen to 90.

Third day.—Tympanites and thirst continued; retention of urine; intellect rather obtuse; other symptoms as before. The morphine solution was now increased to ♏. xxx. every hour. Those doses were continued from noon to six or seven o'clock in the evening, when the signs of narcotism became rather alarming. She slept heavily; was roused with difficulty; would not reply to questions; pupil contracted almost to a point; pulse 68, and respiration 7 in the minute. The opiate was suspended and tablespoonful doses of coffee administered. The narcotism continued for six or seven hours, and gradually subsided.

Fourth day.—Tympanites diminished; tenderness markedly less; features composed; intellect rather dull; pulse 78; tongue dry in the centre; green vomiting occasionally; slight hysterical symptoms; respiration 15; morphine solution resumed, ♏. x. every half hour. Narcotism recurred at about the same hour as last evening, in which the sleep was very profound; and the respiration only 5 in a minute. Treatment as on the previous evening. Toward morning these unpleasant effects of the medicine passed off.

Fifth day.—The tongue was dry and slightly brown, but patient declares that she feels quite well; tympanites has nearly disappeared; no pain or tenderness; pulse 80; respiration 15; some appetite. . . . At 11 A.M. morphine solution resumed, ♏. x. every two hours. At night wakefulness and pain in the abdomen; opium, gr. iij. every hour, under the influence of which she slept quietly.

Sixth day.—Sleeps most of the time; easily aroused, but answers questions slowly and with an effort; tongue moist and not furred; tenderness that recurred last night less; pulse 80; still vomits green fluid; treatment continued.

Seventh day.—Symptoms all improved; opium, gr. j. every hour.

Eighth day.—Abdomen soft and free from pain or tenderness; thirst slight, says "I feel so much better;" was decidedly convalescent. From this time the opium was continued in gradually diminished doses. The bowels were not opened until the thirteenth day. After this treatment was continued a few days she was discharged in her usual health.

[2] No effort was made to secure an evacuation of the bowels during the opium treatment. Professor Clark says: "Purgatives are entirely inadmissible. The bowels should be left entirely at rest till they recover their muscular tone; then they will expel, first the gas and then the fæces; or if, after the inflammation is subsided, they do not move of their own accord, injections are admissible. I have often left the bowels inactive for fourteen days without any recognizable consequences."

[3] The following extracts from the records show the course of treatment of this patient. Treatment was commenced at 10 A.M. with 2 grains of opium hourly; at 2 P.M. dose increased to 4 grains; at 3 P.M. gr. iv.; at 4. gr. v.; at 6. gr. viij.; at 8. gr x., at 9. gr. xij.; at 11, sol. morph. sulph. ʒiss., at 12. ʒj., at 1.30 A.M. (respiration 6), 0; at 6 A.M. (respiration 12), opium gr. xij.; at 10 A.M., sol. ʒj.; at 12 M. ʒij.; at 1 30 sol ʒij.; at 2.30. ʒij; at 3.30, opium, xxiv. gr.; at 5. ʒij.; at 6.30, sol. ʒijss.; at 7.30, ʒij.; at 9, opium gr. xiv; at 10, gr. xvj., at 11. gr. viij.; at 1 A.M., sol. ʒiss.; at 2, ʒiv.; at 3.15, opium gr. xx.; at 4. ʒiiss.; at 5, ʒij; at 6, ʒiiss., at 6.30, opium gr. x.; at 7, sol. ʒiiiss.; at 8, opium gr. xxij., at 9.30, sol. ʒiv.; at 10, ʒiij.; at 11.30. ʒiij., at 12, o. On one day she took the equivalent of 472 grains of opium.

[1] Professor Clark thus describes the method of medication: "The plan is to begin with a dose that is safe, say two or three grains of opium or its equivalent of sulphate of morphia and in two hours notice its effect. If any of the opium symptoms have appeared, repeat the dose; if none, increase by one grain, and so on at intervals of two hours till the degree of tolerance in the patient is ascertained. After that the case can be treated by a diminished occupation of the physician's time, two or three visits a day. The dose is to be increased if the opium symptoms diminish, or discontinued if narcotism is approaching. The duration of the treatment will be sometimes no more than two or three days; it may be a week or even a fortnight, and in one case the symptoms persisted mildly for forty days, and then yielded. In this case the medicine used was sulphate of morphia and the enormous dose reached, by steady and gradual increase, was one grain and a quarter every forty minutes in a boy ten years old."

[2] Alluding to this subject, Professor Clark says: "Of these several signs of opiumism there is none more valuable than the frequency of the respiration; and while the physician aims to reduce it to twelve in a minute, there are chances that he will see it fall to something below that. I have often counted it at seven, and in perhaps two cases it fell to seven in two minutes; and yet these cases of marked oppression from opium all recovered."

The recovery of these six consecutive cases naturally produced a profound impression upon the resident and visiting physicians of Bellevue. As the cases were typical of those ordinarily occurring in that hospital and as opiates were the sole remedies used in their treatment, it was apparent that a new era in the therapeutics of that scourge had begun.

From this time forward opium continued for twenty years to be the chief remedy employed in peritonitis in Bellevue Hospital, with satisfactory results. Opium in peritonitis came into use generally in the city. Professor Clark states "that in private practice the drug has been perhaps more curative than in the hospital."

It is apparent from the preceding review that, previously to the introduction of the opium treatment, puerperal peritonitis was a most destructive disease in Bellevue Hospital when treated by the methods employed prior to 1851. With the introduction of opium, employed as the chief remedy, and in the manner directed by Professor Clark, the same disease, occurring under the same circumstances, became so manageable, that a mortality of ninety per cent. was reduced certainly fifty per cent. These facts lead inevitably to the conclusion that the opium treatment has a place in the therapeutics of that affection of no small importance. Precisely what that position is, it is, perhaps, impossible now to state.

Professor Clark remarks that he cannot explain the curative action of opium in peritonitis. Professor Fordyce Barker, who has had a large and varied experience in puerperal peritonitis in Bellevue, speaking to the same question, says: "The most important of all agents in arresting and controlling this disease is opium, in some form. Let us see what we gain by its use. The peristaltic movements are retarded or arrested; and thus the inflamed tissues have absolute rest; pain is annulled; emotional excitement is allayed; the nervous system is tranquillized; sleep is secured, and thus the depression of the vital forces resulting from the shock of the attack is lessened."

Professor Clark regarded opium as valuable chiefly in simple, uncomplicated peritonitis. He says: "When the inflammation of the uterus is the dominant lesion and is purulent, opium has little or no control over its fatality, but in the cases in which peritonitis is the ruling lesion, if begun early, it will always shows its power." And yet the clinical features of the six puerperal cases which recovered resembled in all their essential peculiarities the fatal cases reported by Vaché, in many of which the inflammation of the uterus and its appendages was the dominant lesion. Of course, we cannot assert that the cases which recovered had other lesions than those of the peritoneum; but six consecutive cases of peritonitis in the lying-in wards of Bellevue Hospital without any inflammatory changes of the uterus and its appendages, would at the period under review have been regarded as impossible. Especially would this be true in an outbreak, in which the first case rapidly proved fatal with such complications. We would seem, therefore, to be justified in the conclusion that several cases made a satisfactory recovery at that time in which the inflammation of the uterus and appendages was the dominant lesion.

Happily, in these latter days, antisepticism has greatly diminished the frequency of this formidable disease, especially the puerperal form, and in the meantime the remedial measures have been greatly increased. This improvement is due to a more accurate knowledge of the functions of the peritoneum and of the existence and action of pyogenic organisms. The researches of Wegner, Grawitz, and Paulowsky have determined that the peritoneum is quite tolerant of simple wounds and that they heal readily. As a lymph-sac, with stomata in its walls opening into the surrounding lymphatics, the peritoneum is almost directly connected with the spleen, pleura, and other organs, thus admitting of rapid and general infection by peritonitis microbes when they exist in large quantities. The peritoneum is not sensitive to injected fluids, provided they do not contain putrefactive bacteria, and even these organisms may be injected in small quantities without harm, as they are quickly absorbed and destroyed or excreted. But if the peritoneum has been previously irritated or otherwise injured, pathogenic microbes are far more effective. It appears, also, that chemical irritants cause inflammation with hemorrhagic effusion, but without lesion of the intestinal walls or the penetration of microbes into the peritoneal cavity. Peritonitis, therefore, not due to putrefactive organisms, is local, while peritonitis produced by such pathogenic microbes as staphylococcus aureus is rapidly fatal by general infection. One of the most important results of recent researches is the differentiation of the types of peritonitis which are caused by various agencies.

Nearly coincident with our more intimate knowledge of the causes of infectious peritonitis was the discovery of the means by which these pathogenic organisms could be destroyed. As these destructive agents must be applied directly to the microbes, the surgeon was brought into this field of therapeutics and has here won some of his most brilliant victories by boldly opening the peritoneal cavity and cleansing it with germicide solutions. But as there are many types of peritonitis having their causation in various conditions, some being of a microbic and others of a non-microbic origin, it is as yet by no means certain where the line is to be drawn between the medical and surgical treatment of this disease. It is probable that the physician and surgeon will more wisely treat the multiform types of this affection by acting in concert, and discreetly employing the measures which each possesses according as they may jointly interpret the indications.

Whatever may be the possibilities of the art of surgery in the treatment of peritonitis, and they are by no means inconsiderable, the question may be pertinently asked, Has any remedy or combination of remedies, in the hands of the physician, given results equal to, or better than opium, in a series of cases similar to those recorded in this paper? And if it be true that by employing opium, as recommended by Professor Clark,[1] more than fifty per cent. of cases of peritonitis as met with in practice, can be saved, should not this method of treatment be at once adopted in all cases, and the resources of surgery be applied where the manifestations of the disease indicate the necessity of its additional remedial measures?

THE TREATMENT OF HERNIA BY MEANS OF THE HANK TRUSS.[2]

By S. E. MILLIKEN, M.D.,

LECTURER ON HERNIA AT THE NEW YORK POLYCLINIC; ASSISTANT SURGEON HOSPITAL FOR RUPTURED AND CRIPPLED, NEW YORK.

The danger of producing excoriation, or at times severe sloughing, with the ordinary trusses of the shops, makes the treatment of hernia in young and delicate children exceedingly tedious, and occasionally impossible.

It was through the ingenuity of an Englishman, a few years ago, that the hank was converted into a truss. And while nothing new can be said regarding its manufacture, after an experience with it of more than a year, I am led to believe that too little is known of its usefulness. The apparatus (see photos) is composed of a loop or hank of worsted, the best quality, containing twenty-five or thirty strands. This is made sufficiently long that it may encircle the pelvis between the anterior superior and spinous processes and the trochanters major, and have enough to make a perineal strap. On one end a double tape is attached, which corresponds to the affected side of the patient, and should be passed through the loop coming

[1] Professor Clark had a large consulting practice subsequent to this time, and he says, "I have seen many cases in consultation and a decided majority have recovered."

[2] Read before the Surgical Section, New York Academy of Medicine, April 13, 1891.

from the opposite side. Considerable importance should be attached to the adjustment of this loop, and is best described as follows:

With the index finger of the left hand, passed through the loop and allowed to rest perpendicularly on the median line of the abdomen, ordinary tension is made. The tape end is now passed through the loop, and the additional force necessary to bring the point of crossing to the inguinal region will usually give sufficient support to retain the hernia. The free or tape end is carried under the thigh of the affected side, and tied to the band going around the pelvis. Where a double hernia exists, the second band is applied irrespective of the first.

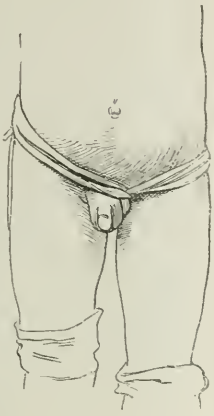


Fig. 1.

The truss may be worn a week or ten days without changing, when the proper use of absorbents is made, the best of which is the subiodide of bismuth. The powder being renewed daily after a sponge bath, rarely will any excoriation of the skin take place.

During the first few weeks no change of the apparatus should be attempted by the mother or nurse, as only after considerable technique has been acquired can protrusion be prevented, especially when dealing with a restless child.

While the ultimate results from treatment have been difficult to obtain, as a large proportion were hospital cases, with the assistance of Mr. Sidney Yankauer, my student, there are before you, I believe, cases that afford sufficient proof of the efficiency and resulting cure without the use of any other appliance.

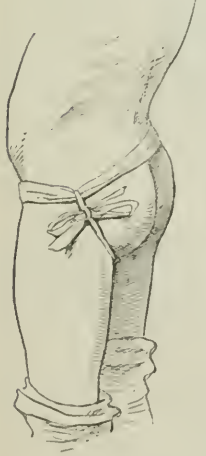


Fig. 2.

Since January, 1890, there have been treated by means of the hank truss, at the Hospital for Ruptured and Crippled, the New York Polyclinic, and in private practice, 268 cases of hernia, ranging from two weeks to four years of age. Of this number there were: Right oblique inguinal hernia, 162; left oblique inguinal hernia, 71; double oblique inguinal hernia, 34; right femoral inguinal hernia, 1. Two hundred and forty cases were males. Twenty-eight were females. The one femoral hernia was in a boy of seventeen months.

While the truss is applicable to hernia in children who are walking, it has proven more satisfactory before that age. Reducible hydrocele and undescended testis can also be relieved by means of this worsted band. When the truss is changed once a week for two months, without allowing the protrusion to take place, ordinarily it can be left off.

The rapid growth of the child, of course, shortens the time of cure, and should the physical condition be impaired, it would be unwise to discontinue the pressure so soon.

Only one case of recurrence has come to my notice after cure with the hank truss. This was only on one side, where a double hernia had formerly existed.

Conclusions.—Among the advantages the hank has over other forms of apparatus are: 1. Easiness of manufacture, no delay being encountered in beginning treatment. 2. Absence of spring or severe elastic pressure, therefore not so liable to excoriation or sloughing. 3. The pressure can be regulated without removing the truss. 4. Less weakening of the tendonous and muscular structures that so frequently follows the use of ordinary trusses. 5. No danger of adenitis from pressure on the inguinal glands.

FRACTURE OF BASE OF SKULL, CAUSING TOTAL PARALYSIS OF BOTH SIXTH CRANIAL NERVES AND PARTIAL PARALYSIS OF THE SENSORY ROOT OF BOTH FIFTH CRANIAL NERVES.

TENOTOMY—ADVANCEMENT OF TENON'S CAPSULE.

By F. B. EATON, M.D.,

OPHTHALMIC AND AURAL SURGEON TO THE GOOD SAMARITAN, AND ST. VINCENT'S HOSPITALS, PORTLAND, ORE.; PROFESSOR OF OPHTHALMOLOGY AND OTOLOGY, MEDICAL DEPARTMENT, UNIVERSITY OF OREGON.

In his invaluable work, "Diseases of the Nervous System," Gowers states[1]: "The nerves that arise nearest the middle line, and are therefore most readily affected by a single lesion, are the third nerves. . . . The two sixth nerves suffer, on the other hand, with great frequency, because they have a long course, not far apart, over the most prominent part of the pons, and they are readily affected by distant pressure. The nerves that are farthest apart, and are least frequently damaged together by a basal lesion, are the two fifth nerves."

As regards the etiology of damage to the fifth pair, he mentions (p. 633), among the causes, traumatic injury, as follows: "Traumatic injury, especially punctured and bullet wounds through the mouth and nose. *On the other hand, the nerve is rarely damaged in fracture of the skull.*" (Italics are mine.) The above statements of this celebrated author would seem to justify me in presenting the following case, which came under my care not long ago:

M. S——, male, aged twenty-four, consulted me February 12, 1891. He stated that he was injured on November 25, 1890, by the caving in of a stony bank into which he and another laborer were making an excavation. When the "cave" occurred, a large bowlder struck him on the left side of the head, felling him to the ground, and he and his companion were covered with a mass of earth. The latter was soon rescued, but it required the joint efforts of several men to remove the rock from the head and shoulder of S——. He then showed no signs of life, and was left for some time as dead, but eventually, in about two hours, he became conscious, and examination disclosed an extensive fracture involving the left parietal and the left side of the frontal bone, and extending downward posteriorly behind the left ear. The lower edge of the fracture was slightly depressed. There was hemorrhage from the right ear and also from the nose. There was no inflammatory reaction, and the patient was on his feet and walking about in twenty days from the time of the accident. He stated that "the right ear and the nose ran red matter for five days after the injury." Moreover, at intervals of about two weeks since, he has had slight hemorrhage from the right ear and nose, and at the same time some headache. When he first regained consciousness he found that both eyes were turned far inward, but that the sight of each was as good as ever, and has remained so. There is some discharge from the right ear, but beyond the inconvenience of having to turn his head to see, and slight dizziness on stooping, he has nothing to complain of.

Present Condition.—Patient appears strong, well nourished, and healthy. On questioning him, however, he stated that he had found himself yet unequal to hard work. The corneæ are at the inner canthi, the right

[1] American edition, p. 481.

being turned slightly more inward than the left. Neither can be turned outward at all, though on telling him to follow my finger when moving it outward before each eye, there was seen the peculiar combined zigzag and rotary motion characteristic of total paralysis of the lateral recti. Motion in all other primary directions was unimpaired; the externi were the only muscles affected. Neither was there any distortion of the face, or paralysis of the facial muscles. Anæsthesia of the face was marked, however, and its area found to be sharply defined on mapping it out with a pin-point. This area is fairly well represented in the cut, which was made from a photograph, the area, the boundaries of which had been obtained by the pin, being filled in on the patient's face, with a black crayon before the picture was taken. I may state that the patient was unaware of the existence of any anæsthesia whatever, until I demonstrated it to him. On applying one pole of a faradic battery to the left eye, the conjunctiva proved to be nearly totally anæsthetic. The cut does not accurately represent the anæsthesia of the frontal region, as it extended, especially on the left side, up under the hair, and back to near the vertex, indicating implication of the supra-orbital, internal frontal, and

FIG. 1.

perhaps of the temporo-auricular, branches of each fifth pair. A remarkable feature of the anæsthesia is the isolation of small non-anæsthetic areas represented by the ultimate distribution of the fibres of the infra-trochlear and orbito-malar branches of the fifth. It will be remembered that the lachrymal is an off-shoot of the ophthalmic, and the two others of the superior maxillary division of the trigeminal. That the lachrymal twig did not escape was indicated by entire loss of sensation in the outer half of each upper lid, while the inner halves retained it. The tip, and the lower part of the nose just above it, also retained sensation, indicating that the superficial branch (externus seu lateralis) of the nasal branch of the ophthalmic division, was intact. The only marked difference between the anæsthesia of the two sides of the face was that that of the right side extended farther backward on the cheek than the left, and that the non-anæsthetic areas of the right side of the lower lip, and around the right eye, also extended more to the right (see Fig. 1). Examination of the right ear disclosed a swollen and perforated membrena, and a moderate muco-purulent discharge. There was no otalgia. The left ear appeared to be normal in every way. I may state that the patient's mental condition seemed absolutely normal, and unusually equable, and his manner quiet and self-possessed.

Course and Treatment.—The young man was urgent that I should begin treatment at once, as he had come to the city on borrowed money; and so I made a tentative trial of Professor J. Michel's method of passive motion[1] on the left eye, grasping it (after cocainizing), to the outer side of the cornea with a pair of fixation forceps, and rotating it outward as far as possible. This procedure, however, gave him so much pain, owing to the secondary contraction of the internus, and the chance of any return of any power in the externus was so uncertain that I of course declined to repeat it. Muscular or capsular advancement was clearly indicated. I decided upon capsular advancement, for reasons which I will explain farther on, operating the right eye February 16th. I proceeded after the modification of de Wecker's original operation, as planned by Professor Knapp, and later on described by him.[2]

After freely tenotomizing the internus I divided the conjunctiva in the ordinary way, but excised none of it. Then Tenon's capsule was freely opened above and below the tendon of the external rectus. A suture was then introduced so as to include the outer lip of the conjunctival wound, the capsule above the tendon, and the upper edge of the latter, bringing it out through the episcleral tissue vertically above the cornea; a second suture was similarly introduced and made to include the lower edge of the tendon. Then a third one was made to include the conjunctiva, capsule, and a considerable portion of the tendon horizontally, coming out in the episcleral tissue close to the outer magin of the cornea. On tying the three, the eye was placed exactly in the middle of the palpebral fissure. I did not aim at any excess of effect, because I believed that I could make up for any after-loss of effect by a similar operation on the left eye. There was moderate reaction on the following day; healing was prompt, and the stitches removed on the fifth day. The eye then retained the position it occupied at the end of the operation. The effect upon the other eye seemed to be marked and unmistakable, for though the paralysis of its externus still remained complete, the cornea was turned some millimètres outward, as if some effect had been produced upon the left internal rectus. The patient now experienced considerable relief, being able to see when holding the head straight to the front, and diplopia annoyed him when the left eye was uncovered. At the expiration of the twelfth day following the operation, the position of the eyes remaining unchanged, I decided to operate the left eye, when, in spite of all warning and persuasion, the patient insisted on leaving the hospital and the city. The warning was thought necessary because a few days before he left he had slight hemorrhage from the right ear and the nose, with headache. This sudden departure was as disappointing as unexpected, since certain points as regards the condition of sensation of the mucous membrane of the mouth and tongue, and possible recovery in part of the sensation of the face, were yet to be studied. Very slight convergence of the right eye then remained.

Remarks.—The interesting feature of this case lies naturally in the nearly symmetrical anæsthesia of the face, while the question of moment is, At what part of the base of the skull was the lesion? Again, What lesion is compatible with nearly symmetrical injury to the sensory root of each fifth, its motor root being intact, while the function of the sixth pair is completely destroyed? Finally, Under the circumstances, can the symptoms be accounted for by injury to the sensory nuclei of the fifth and sixth in the medulla? It is to be borne in mind that the total paralysis of the sixth pair still persisted when I

[1] Zehender's Klinische Monatsblatter, Nov., 1887. p. 373; also Arch. Ophthal., vol. xv., p. 492.

[2] See Trans. Siebenter Periodischer Ophthal. Congress, Heidelberg, 1888, pp. 94, 95.

last saw the patient, that is, over three months after the accident.

A study of the anatomy of the base of the brain will, I believe, justify me in my conclusion that the paralysis of the sixth pair, and sensory root of each fifth pair, could be accounted for best by a lesion occurring just about the middle of the dorsum sellæ of the sphenoid, and that this was at about the point where the sixth pair pierces the dura mater, since the third nerve takes its departure from the brain a little anteriorly, and here also the fifth pierces the dura mater. Moreover, hemorrhage from the right ear persisted so long after the accident that fracture of the petrous portion of the right temporal bone must have occurred, and hence it would seem, at least as far as the sixth pair is concerned, that something more than hemorrhagic effusion destroyed its function, and impaired that of the sensory roots of the fifth nerves. That the injury to the latter did not completely suspend their function, is clearly shown by the areas of sensation shown in Fig. 1, and referred to above. As to the symptoms being compatible with injury to the nuclei of the fifth and sixth in the medulla—while the proximity of the nuclei of the sixth to the floor of the fourth ventricle would seem to render their injury, especially from hemorrhage into the

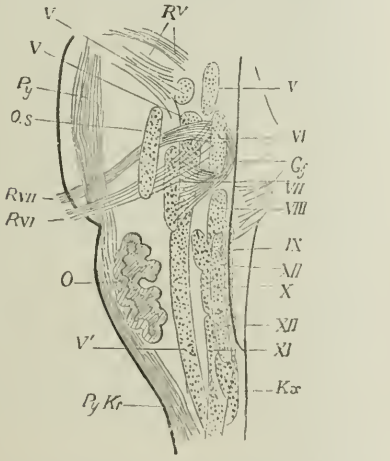


Fig. 2.—Diagrammatic Representation of the Nuclei of the Cranial Nerves as seen in Section. The left half is supposed removed, and the nuclei nearer the median line are shaded darker than the others. (After Erb.)—*Py*, pyramidal tracts; *Py Kr*, decussation of the pyramids; *O*, olivary body; *O.S*, upper olivary body; *V*, motor, *V'*, middle sensory, and *VRV*, lower sensory nucleus of the fifth nerve; *VI*, abducens nucleus; *G.f*, knee of the facial nerve; *VII*, facial nucleus; *VIII*, inner auditory nucleus; *IX*, glosso-pharyngeal nucleus; *X*, vagus nucleus; *XI*, accessorius nucleus; *XII*, hypoglossal nucleus; *Kx*, clavate nucleus; *RV*, roots of fifth nerve; *RVI*, roots of sixth or abducens; *RVII*, roots of facial.—David Ferrier.

ventricle, more likely than to the other adjacent nuclei, such a conclusion seems to me untenable for several reasons.

It is, perhaps, sufficient to cite the principal one, which is: That as pointed by more than one observer,[1] a portion of the fibres of the facial nerve, after leaving its nucleus, pass through the nucleus of the sixth as they circle around it (Fig. 2). I have stated above that the muscles of the face were unaffected; in fact there were no motor symptoms.

In respect to capsular advancement, I would say one word. I have given this operation the preference in all cases of strabismus where a simple tenotomy could not be expected to correct the condition, and have accumulated some experience as to what it will accomplish when properly performed. I can state confidently that the middle horizontal stitch, as advised by Professor Knapp, is, in all cases where a considerable effect must be attained, a most important addition. But to succeed, one must, as he has stated, use a very sharp needle, and penetrate without cutting, the episcleral tissue; otherwise the sutures will accomplish little.

All attempts to discover the whereabouts of my late patient have been unsuccessful.[1]

[1] Ferrier: The Functions of the Brain, Fig. 13, p. 20. Gowers: Diseases of the Nervous System, Am. ed. p. 486.

A CASE OF CONVERGENT SQUINT CORRECTED BY ADAM'S MODIFIED OPERATION FOR DEFLECTED SEPTUM.[2]

By FRANCIS J. QUINLAN, M.D.,

LECTURER ON DISEASES OF NOSE AND THROAT, NEW YORK POLYCLINIC.

The following case came to the Throat and Nose Department of the New York Polyclinic, and was kindly referred to me by Dr. J. W. Gleitsman:

Archie M——, aged fifteen, a boy unusually tall, but thin, for his age, fell from a height about ten years ago and struck on the bridge of his nose. Since that time it was noticed that the boy's eye was turned to the nostril and the nose itself bent in an opposite direction. The patient presented the appearance of one affected with a convergent squint and with extreme deflection of the nose. The voice was high-pitched and decidedly nasal in tone, giving evidence of a continual strain of the vocal muscles. He gave the impression of diminished intelligence, and his countenance pictured the well-marked face of a "mouth-breather."

The boy complained of seeing objects always double, and said he also experienced a feeling as if the affected side of his face were drawn to the nostril.

Little or no attention was paid to the strabismus, which however was of so exaggerated a type, that the cornea of the left eye seemed almost in direct contact with the inner canthus of the orbit, and it was the intention of the writer to send the case to Dr. Webster, for operation on the eye after the boy's nose had been treated.

With the view of remedying the deflection, the interior of the nose was examined, and it was found that the left nostril was completely occluded, so that the smallest probe could not be made to enter the nasal cavity on that side. A twenty per cent. solution of cocaine was thoroughly sprayed over the septal mucous membrane and a small piece of cartilage removed. The boy was then allowed to go home and directed to return to the Clinic in a week or ten days. After a lapse of two weeks the nostril was again examined, and the cavity was found large enough to admit the introduction of the blade of Adam's forceps. In the presence of the class at the Polyclinic.

[1] Wishing to have the opinion of an anatomist as to the point of lesion in this case, I submitted the history to my friend Dr. A. D. Bevan, Professor of Anatomy in Rush Medical College, Chicago. Dr. Bevan kindly responded as follows:

"Portland, Ore., April 7, 1891.

"Dr. F. B. Eaton, City.

"Dear Sir: I have reviewed your report of your very interesting case of paralysis of external recti and anæsthesia of portion of face supplied by fifth nerve, almost symmetrical, as shown by photographs accompanying report. After a somewhat careful study of facts I would give you this opinion as an anatomist as to the character and location of lesion:

"1. As was very clearly shown by the signs following the injury, the patient sustained a fracture of the base of the skull.

"2. The line of fracture probably passed through, or in the immediate neighborhood of, the articulation between the body of the sphenoid and the basilar process of the occipital bones.

"3. Extravasation of blood and thickening of the tissues about the line of fracture produced pressure upon, and paralysis of, the sixth and sensory portion of fifth nerves, both these nerves being in close proximity to the spheno-basilar articulation.

"The fact that the motor portion of the fifth, and part of the sensory portion of the same nerve were not involved would not argue, in my mind, against the causation which I suggest. I would think the prognosis of the case, not permanent paralysis, but eventual restoration of nerve function, if my views of pathological anatomy are correct. Bowlby, in his Injuries of Nerves, reports a somewhat similar lesion (p. 117).

"Thanking you for the opportunity of studying this interesting problem, I am,

"Very respectfully,

"A. D. Bevan."

[2] Read before the Section in Rhinology and Laryngology, New York Academy of Medicine, May 24, 1891.

the septum was fractured and bent to the opposite side. The operation was almost painless and the loss of about a teaspoonful of blood was incurred. Plugs of cotton saturated with Dobell's solution were used to hold the septum in the median position during forty-eight hours, after which time they were replaced by the small nasal tube designed by Dr. Goodwillie.

Our patient (in the meantime) was seen daily, the tube was removed, and the parts cleansed with an alkaline antiseptic wash. Some fragments were removed by the saw and a fairly straight septum resulted, thus admitting to the lungs by a natural passage the air heretofore supplied only by "mouth-breathing;" for it is well known that the combined calibre of the two nostrils is not enough to perform natural respiration in cases of deflected septum, and hence mouth-breathing is called into requisition to make up for this existing deficiency.

The great difficulty heretofore encountered in making Adam's operation a success, was that the means for coaptation, or rather holding the parts in the median line, were rather due to the after-treatment of the operator than to the operation itself. The various plugs of ivory and hard rubber, likewise the clamp, which were designed for the above-named purpose, failed in consequence of the undue pressure which they exerted upon the soft parts, causing œdema, ulceration, and even necrosis of the surrounding tissues.

Perhaps the most interesting and instructive chapter on the etiology of deflections of the nasal septum that has ever appeared, was that published by Dr. Delavan, and read by him before the ninth annual congress of the American Laryngological Association. This beautiful essay is replete with information on the subject, and the author has covered the entire ground by his exhaustive treatise. I should occupy your valuable time were I to go into detail regarding the history of these common disorders, hence I shall simply refer you to Dr. Delavan's brilliant and masterly paper.

Dr. J. W. Gleitsman has more than once entertained us with his practical researches in this special department of medicine, but his valuable paper read before this Section, on "Deflections of the Nasal Septum," has probably been the greatest contribution to the medical literature in this line. Many of you remember this article, and are mindful of the investigation made by Dr. Gleitsman of one hundred skulls found in the various museums and deadhouses of this city. His statistics show the great prevalence of such deflections. The foregoing reference is not made with the view of extolling individuals, but simply to award to those indefatigable workers the credit for their labors and original research on this practically new subject.

You are all familiar with the many operations that have been suggested from time to time for the relief of this condition. Among the most prominent of these are: The Punch of Blandin, the Pin of Robert, the Incision of Asch, and the Fracture of the Parts by the Adam's Forceps. It is this last-named remedy that interests us most, for although the Adam's process by itself would only partly have had the desired effect, the success of the operation was in a measure due to the subsequent use of the soft rubber nasal tube. By this means the resistance of the tissues was overcome and firmly held until all inflammatory action had passed off, and the median position was secured. These tubes prove of invaluable benefit not only in operations of the septum, but also where there is a constant attempt to heal, and a synechia is very frequently the result of a saw operation. They admit air through the nostril, do not interfere with drainage, and keep the tissues erect until firm healing of the parts has taken place. No other method or device can hold the parts so completely without effecting mischief, and no discomfort is experienced through wearing these tubes. Many patients can wear them for six and seven weeks at a time; they can be removed daily, the nose thoroughly sprayed, and the tube washed and replaced. They are so easily manipulated that I have yet to hear of a patient who has so sensitive a mucous membrane as not to be able to tolerate their presence. I can recall distinctly at least fifteen patients who have been operated upon during the past eighteen months and have worn these tubes.

But to return to our present subject. The boy improved daily and realized that a great change had taken place. His family wondered at his altered appearance, for the nose once crooked and deformed had assumed a natural position and the patient experienced great comfort. The hitherto hideously cross eyed boy was observed by friends to have been changed into a pleasant-faced, smiling lad. The interest among his circle was so great that all were glad that he had had his "eyes fixed." Such were the natural feelings of all who knew him, especially of his school companions.

It is a source of regret that a photograph of the boy had not been taken prior to the operation, but so unlooked for a result was not anticipated.

Much has been written from time to time upon the subject of these deflections, and various are the causes assigned to them. Some refer them to the high arch of the palate, others to a hypertrophy of the turbinated tissues, and many cases are directly due to traumatism. We are not here however to dilate upon causes, but to speak of remedying the defects, and to restore the upright position as far as practicable, so that the parts should conform to their natural situation and place. From various observers we are led to believe that the lower two-thirds of the nasal chambers have as their specific function, to receive the air on its way to the lungs, to cleanse it of any foreign particles, and to moisten and warm it before it reaches the pulmonary cavity. If this order is interfered with irritation of the larynx is effected, and congestion of the bronchial mucous membrane as well as an improper oxidation of the blood is the result. Many are the reflex conditions indirectly attributable to the narrowing of the nasal space.

We are all familiar with cases of chorea, rebellious trachoma, and over active lachrymation, purulent otitis, or an aggravated laryngitis, that may have been overcome by attention to the interior of the nose. None can deny that asthma has often been relieved by the removal of a polyp or the reduction of a hypertrophy in this region. If a spasmodic condition of the bronchial muscles can be influenced by lesions of the nostril, it is not difficult to suppose that the muscles of the eye may be affected by similar causes.

The boy in the case before us, up to the time of the injury to the nose, was apparently free from any eye or nose trouble. Immediately after the accident the eye was turned to the nose and the nose itself bent to one side. This condition had existed for ten years, and during that time the boy kept up a continuous muscular tension in order to draw the air through the occluded nostril and exercise his sense of smell. That this strabismus was corrected by an operation of the nose, no one who is cognizant of the facts of the case will deny. No matter how such a result was accomplished, whether the outcome of an operation or a coincidence, it is worthy of comment, and therefore attention to the nasal chambers should be attracted in all eye troubles, to ascertain if some obstructed condition does not exist in these primary channels of respiration.

Some Vaccination Statistics.—In Germany vaccination is compulsory in France it is not. In Germany the total mortality in the entire country from small-pox was 168. In Paris alone during the same year it was 382. In Alsace the annual mortality per 100,000 from small-pox has fallen, since the annexation of the province to Germany, from 2.14 to 0.22. The citizens of Zurich voted to do away with compulsory vaccination in 1883. The number of deaths from small-pox in 1882 was 3; in 1883, 8; in 1885, 52; and in 1886, 85.

Clinical Department.

RUPTURE OF THE RIGHT VENTRICLE — DEATH IN TWENTY-FIVE HOURS — AUTOPSY.

By C. L. SQUIRE, M.D.,

ELMIRA, N. Y.

Was called to see Mr. R. P. W——, March 21, 1891. He was a man seventy-three years of age. His body was well nourished for one of his age. He had regarded himself as well, though he had for a few months been troubled with asthma. Several years ago father had treated him for pleurisy with effusion; his case then required two aspirations, both times the fluid was pure serum.

From this illness he had fully recovered. Since then I have made several examinations of his chest, only to find the lungs in good condition. He had of late been in my office to consult with me in respect to his asthma. I examined his heart and pulse, but could find no sign of organic disease. I passed his case by with the advice to try the inhalation of stramonium smoke. I afterward learned that he had used various of the patent asthma remedies, with little or no relief; I may mention here that within a year he has had some ascites, causing a bulging of the inguinal canal of the right side, and within the same period I have tapped the tunic for hydrocele of the left scrotum. Notwithstanding all this, as I said before, he regarded himself as well, and had even asked his neighbors for odd jobs of work in his line; his occupation was that of a carpenter.

The occasion for my call was a sudden attack of pain in the pit of the stomach, just below the breast bone, which he experienced during an effort at stool. So sudden and distressing was the pain that he had to adjourn the business without further attempt. He adjusted his clothing and walked to the kitchen from the outhouse, then with the aid of his sister and her daughter, he went upstairs to his room and took a seat upon a couch. This occurred at ten o'clock in the morning, and although my visit was one hour and a quarter later, he had obtained no relief, notwithstanding much had been done in the way of hot drinks, hot applications, and foot-baths, by his sister, Mrs. C——. As soon as I entered the room it occurred to me that Mr. W—— was suffering from an ordinary attack of colic, and without making an examination of his case beforehand, began to prepare to give him a hypodermic injection of morphine; fully one-fourth of a grain was used in his right arm. After waiting about twenty minutes and no relief had followed, the same amount was repeated, this time in the wall of the abdomen over the seat of pain; this in twenty minutes more brought some relief, assisted by hot applications of poultices across the chest. Had now been with my patient a full hour, and left him some easier, but I had a conviction that the case was more than simple colic. His pulse was quite natural. His face was a little pale, and some sweat on the forehead was all that indicated the severity of the disease, aside from the moaning and shortness of breath. Returning at three o'clock in the afternoon, found the patient easier than when I had left him three hours before, but the pain was constant and in the same spot. He complained of shortness of breath and a sensation of soreness all through his chest. He had been in bed since he began to be easier. At my request he sat up, so that I could examine his lungs, and strange to say, everything seemed natural, even the heart sounds. The percussion notes were all natural. My fear was pneumonia, but this was now dispelled, and I told Mrs. C—— that some rupture must have taken place, but the exact nature of it I could not tell.

When needed I was to be sent for, thinking this might occur soon. And was a little surprised that no message had been sent during the evening, but was content to let the matter rest until morning. Learned later that the evening and early morning had been passed with no change for the worse, but early in the morning he had attempted to move the bowels again, with renewed pain, which now as before compelled him to desist. He had been quite thirsty during the night and drank milk and water quite freely. He had vomited once, and in the effort he felt a numbness in the left side of the face and absolute blindness in the left eye, but he had recovered from this before my morning visit. When I made my morning visit a great change was found in my patient. He was very restless and in his own words he "could find no place to rest." He was pulseless and gasping for breath. He had all the windows and doors of his room open for air. His ears and finger tips were blue, and a cold whiteness was on his face. He was conscious and talked calmly with his son and with me, constantly changing his position from lying to the sitting posture, with his feet over the side of the bed. He seemed able to help himself. He asked to use the chamber and seated himself upon it, in my presence and with my assistance. As soon as it was learned that he was trying to have a passage from the bowels I remonstrated, and he yielded to my suggestion to go back to bed, and I would remove the mass; but it was found that he could not lie still long enough for me to accomplish much or anything in this respect; still I could discover no great impaction of fæces in the rectum. I had been with him two or three hours, using whiskey to stimulate him, but it was with no good effect. He had been pulseless all this time, neither could I hear or detect a heart-sound with my ear to the chest, but this was attributed to the hurried and labored breathing, the sounds of which muffled the feeble heart-sounds. At this juncture he asked me if I could do nothing for him. I answered that the time was short in which to do anything, but that we would stimulate him the best that we could; then, turning to his son, said that it was my opinion that the case was one of heart rupture, and that medicine could do the patient no good.

The patient then repeated a passage of Scripture: "Yea, though I walk through the valley of the shadow of death I will fear no evil: for Thou art with me," etc. A few other such lines, and he sank into silent death. At first an autopsy was refused me, later consent was obtained under restrictions. Five hours after death, Dr. C. W. M. Brown present: The cartilages were found ossified, so much so, that they were cut through with difficulty, but this accomplished the chest was opened and examined. Very little blood was found in the pericardium. Pressing on the heart, a jet of blood came from within and was wiped away with a sponge; again the heart was pressed upon, and again the jet appeared to come from the right ventricle through an opening about the size of a knitting-needle. The heart was removed and found enlarged; the walls of the right ventricle were cut through and found to be very much softened in texture; the walls of the left ventricle were found hypertrophied; the left auricle collapsed, the right auricle greatly distended. Examining the anterior wall of the right ventricle more closely, another and larger rent was found; it was about a fourth of an inch long, and at right angles to the ventricular ridge, and about one and three-fourths inch from the auricle. A probe could be passed through this into the cavity of the ventricle by displacing a blood clot that had plugged it tightly. The other opening, through which the jet of blood had been observed to come, was one inch higher up and a half inch anterior to the ventricle ridge; this was regarded as more recent in its occurrence than the former. Near the apex there was an indenture that looked to me to be the cicatrix of an old rupture, but Dr. Brown thought not; this was over the right ventricle also. The internal opening of these ruptures was at the top of the cavity and behind the anterior valve. There was no disease of the valves themselves, no disease of the lungs or pleura except a

pigmentation of the lung-tissue, which is often observed in cases of mitral or tri-cuspid lesions. Having verified my diagnosis and established the cause of death, the examination was carried no further.

ABSCESS OF THE PENIS, COMPLICATING PERIURETHRITIS, WITHOUT PERFORATION OF THE URETHRA.

By JAMES M. MAGHEE, M.D.,
WEST ORANGE, N. J.

W. B——, aged eighteen, student, applied to me, April 1st, for treatment of a gonorrhœa contracted about a week previous. His penis was somewhat swollen, and discharging freely from the meatus. Ordered rest and local applications of a lead and opium wash with oleoresin of cubebs ℥. x. t.i.d.

April 4th. Penis very much swollen and very tender, hardly any discharge. On the under surface, midway between the fossa navicularis and the bulb was a hard, painful swelling extending toward the dorsum on the left side. An incision was advised, but refused. Flaxseed poultices applied.

April 6th. The swelling had increased in size, and at a central portion gave a distinct fluctuation. It was so painful as to seriously interfere with sleep. The patient's scruples against the knife were finally overcome, and an incision made to the left of, and parallel with, the course of the urethra and a large quantity of pus evacuated. A probe passed in almost to the dorsum on the left side and disclosed a sinus extending over the urethra to the right. The cavity was well syringed out with a five per cent. solution of carbolic acid and packed with iodoform gauze, and the poultices ordered continued. The next day almost complete relief from pain was experienced, and the swelling had nearly subsided. For his gonorrhœa I ordered, in addition to the cubebs, an injection of zinc sulphate (gr. ij. ℥ i.) four times a day. The abscess was well washed out daily with the carbolic solution, and packed loosely with gauze soaked in balsam of Peru. Poultices discontinued.

April 10th. There had been considerable sloughing around the incision, and from the bottom of the cavity large unhealthy granulations had sprung up. The discharge was very profuse and rather fetid. No urine escaped from the wound. The granulations were touched with nitrate of silver, and the cavity washed out with a solution of mercuric chloride (1 to 3,000).

April 12th. There seemed to be an increase in the size of the abscess cavity. It now involved the principal portion of the corpus spongiosum on the left side for the space of about an inch in the centre of the penis, and quite a pocket had formed extending to the right. A counter-opening was made at the bottom of this pocket, and a strip of gauze run through as drainage. The whole cavity was then swabbed out with chloride of zinc (gr. xl.- ℥ j.) and packed as before.

April 15th. Condition about the same. Potassii iodidi was ordered in doses of gr. v., t.i.d., increasing gr. ij. ss. per day. Dressing as before. In a few days the improvement was marked, and continued.

May 8th. The main cavity had completely healed, and only a small sinus connected the two openings, with very little discharge. The patient was now taking gr. xx. of the iodide, t.i.d. He was ordered to decrease gr. ij. ss. per day, and to stop in two weeks. At this time he returned to college, and I did not see him again until June 18th, when he reported cured. The wounds in the penis had completely healed, he said, about May 15th, and his gonorrhœa had ceased running nearly two weeks previous. At no time during the course of the trouble had there been the slightest discharge of urine from the wound, although he was made to evacuate his bladder at each dressing, and the condition noted carefully. The latter part of August a 30 (French) sound, which was the largest the meatus would admit, was passed into the bladder without difficulty. The penis is somewhat curved during erection, and a small cicatrix remains to mark the site of the original incision, but he complains of no inconvenience and says the curvature is growing less and less all the time.

As nearly all cases of extensive abscess complicating periurethritis are followed by acquired hypospadias more or less severe and permanent, it is interesting to note in this case that, in spite of the large portion of the tissue around the urethra involved in the suppurating process, and the sloughing which occurred, the urethra itself remained intact, and that three months later no narrowing of the canal could be detected.

STRANGULATED CÆCAL HERNIA, EXTRA-PERITONEAL—HERNIOTOMY, NECESSITATING ABDOMINAL SECTION, COMPLICATED BY MITRAL AND AORTIC INSUFFICIENCY —RECOVERY.

By J. EDWARD AUSTIN, M.D.,
NEW YORK.

Cases of this form of hernia are extremely rare. Treves,[1] in a short monograph on the subject read before the Medical Society of London, says: "Hernia of the cæcum occurs most commonly in congenital umbilical herniæ. In inguinal herniæ it is less frequently met with, and but seldom found in femoral. The acquired hernia is commonest in the inguinal region in adult males, and on the right side. Clinically the hernia is irreducible as the effect of its bulk, adhesions, and peritoneal connections, and also from its liability to inflame and become obstructed, but rarely strangulated. Modern text-books generally state that it has no sac. Arnaud's case was the first on record, being one for which he performed resection in 1732. The patient recovered—a permanent fæcal fistula being left." Mr. Treves maintains that all cases of cæcal herniæ possess a sac, and in the majority of cases it is perfect. He gives a careful description of the history of the statement that hernia was sacless, commencing with Desault, who affirmed the point in 1796, passing on to Scarpa[2] who asserted that the peritoneum had the same arrangement in the sac as in the abdomen, in which belief he was succeeded by Pelletau, Hesselbach, Cloquet, Laurence,[3] and Chelius. There are seven specimens in the museums of London, and eight recent records of cases. Of these fifteen cases twelve were provided with perfect sacs, two had imperfect sacs, and one was doubtful. Treves himself reports two cases in both of which the sac was perfect. In one hundred examinations of fresh subjects in the post-mortem room, Treves found the cæcum entirely invested with peritoneum, and no meso-cæcum.

Wright[4] reports seven cases of cæcal hernia in male children from three months to seven years of age, the hernia occurring in the right inguinal region, and a perfect and well-defined sac in every case. Bennett[5] reports a case of cæcal hernia entirely wanting in a peritoneal sac, in which strangulation at the internal abdominal ring co-existed with an intussusception through the ileo-cæcal valve. Mr. Bennett states that in 565 herniotomies performed at St. George's Hospital the number of cases of strangulated hernia of the cæcum in any form amounted to only 1.59 per cent. Hulke[6] mentions two cases of strangulated cæcal hernia, one inguinal and one femoral, operated upon at the Middlesex Hospital. In the former case the cæcum and appendix were extra peritoneal, while the ascending colon was surrounded by a complete sac. Keetley[7] reports a case of hernia of the appendix vermiformis in the right inguinal region, with

[1] Brit. Med. Journal, 1887, vol. i., p. 382.
[2] Treatise on Hernia, 1809.
[3] Treatise on Rupture, 1838.
[4] Brit. Med. Journal, 1887, vol. i., p. 506.
[5] Lancet, 1890, vol. i., p. 243.
[6] Ibid.
[7] Med. Press and Cir., 1890, vol. xlix., p. 85.

absence of peritoneal sac. Schmidt,[1] Gray,[2] Black,[3] report cases of strangulated cæcal hernia in the left inguinal region.

I have not been able to find in the literature of the subject to which I have had access another case of recent strangulated cæcal hernia. All of the reported cases have occurred secondarily in pre-existing old standing scrotal hernia. The following case occurred in my practice while Chief Surgeon to the railroad at Limon, Costa Rica. The duration of the strangulation—sixty-five hours—the fact of it being a recent hernia, the previous history and physical condition of the patient, make the case one of great interest.

J. W——, aged twenty five, Jamaica negro, a laborer on the railroad, entered the Limon Hospital, March 13, 1890. He had been previously admitted to the hospital on January 18, 1890, suffering from acute tropical dysentery. At this time he was extremely weak and anæmic, with dyspnœa on exertion and œdema of the feet and ankles. He stated that three years before he had had a severe attack of rheumatism in Jamaica. Physical examination revealed enlargement of the heart (dilatation), with both mitral systolic and aortic diastolic murmurs. He made a good recovery from the attack of dysentery, but was kept in the hospital until February 26th, on account of his cardiac trouble. He requested his discharge upon that date as he felt able to return to work. His general condition was much improved, and the œdema and dyspnœa had disappeared under appropriate medication.

On admission, March 13th, 9 A.M., he gave the following history: He had been employed in a mason's gang, sixty miles from Limon, and on March 10th, about four P.M., while lifting a heavy stone, he "felt something give way inside of his belly," and a large swelling appeared in the right side of his scrotum. It caused him intense pain, and all his efforts to push it back were ineffectual. With help he managed to walk back to camp—a short distance away—and went to bed. Unfortunately, just at this time—owing to the heavy rains—several landslides occurred, completely blocking the road, and not until the morning of March 13th was communication established and the patient brought into Limon. In the interim he was advised by some of the negroes in camp to take castor-oil, which he did, also four pil. cathartic co., U. S. Vomiting soon commenced, and continued, at intervals, with severe abdominal pain of a colicky nature. (The limited intelligence of the patient made it impossible to obtain a satisfactory account of the character of the vomited material.) The day following the rupture, although suffering great pain and vomiting frequently, he took two more doses of castor-oil and four more cathartic pills.

On admission the patient appeared to be suffering intensely; was unable to stand. Face anxious; tongue dry and brown. Severe abdominal pain; no movement of the bowels since the rupture; vomiting up to the hour of admission. Examination revealed a large scrotal tumor on the right side, the size of an infant's head. Tumor very tense and extremely sensitive to touch. No impulse on coughing. Abdominal tenderness on the right side. Temperature, 101° F.; pulse, 116; respiration, 28. Patient was immediately anæsthetized and herniotomy performed under antiseptic precautions. Carefully cutting down on the tumor, a quantity of loose areolar tissue was seen at the bottom of the wound. Separating this with the handle of the scalpel, the vermiform appendix came into view. Further exploration revealed that the hernia consisted of the whole of the cæcum and about three inches of the ascending colon. There was no trace of any peritoneal sac. The cæcum was partially adherent to the scrotal tissues, but the appendix was free. The cæcum and involved portion of the colon were deeply congested, being dark purplish red in color. The cæcum presented two small ecchymotic spots and flakes of exuded lymph upon its surface. The constriction was found to be at the internal ring, and was freely divided. Half an hour was spent in carefully separating the adhesions of the cæcum. When this was completed it was found impossible to reduce the hernia through the natural openings, on account of its bulk and the inflamed condition of the parts. The abdominal wall, including the parietal peritoneum, was then divided upward, and a little outward, for four inches, with scissors, the finger being used as a director.

At this stage of the operation it was clearly apparent that there was an entire absence of peritoneal sac, the peritoneum having been stripped off on the descent of the hernia. The parts were then returned to the abdominal cavity, which was flushed out with hot sublimate solution, 1 to 10,000. Wound closed by deep and superficial sutures, drainage-tube introduced, and dressed antiseptically.

Patient bore the operation badly, symptoms of severe shock supervening soon after its commencement. Rallied under brandy and camphor in ether given hypodermically.

March 14th.—Passed a fair night; was given morphia, ¼ gr., every three hours. He complained of considerable pain in the abdomen on the right side. Temperature, 101.8° F.; pulse 120. Kept under morphia and given stimulants and beef juice at stated intervals.

March 16th.—Bowels moved twice spontaneously; some abdominal pain; temperature normal.

March 20th.—Deep abdominal sutures removed; wound healed by first intention. Localized tenderness over the cæcum on pressure.

April 4th.—Allowed solid food and to be up about the ward.

April 16th.—Patient left the hospital and returned to his home in Jamaica. The cicatrix was firm; some induration existed on the right iliac fossa, but no tenderness on pressure.

172 West Ninety-fifth Street.

[1] Pitha and Billroth's Handbook, 1878.
[2] Lancet, 1888, vol. ii., p. 510.
[3] Brit. Med. Journal, 1890, vol. ii., p. 1177.

A CASE OF SPURIOUS MEMBRANA TYMPANI.

By CHARLES H. BAKER, M.D.,
BAY CITY, MICH.

Mrs. E——, aged thirty, consulted me, November 25, 1890, regarding her deafness, which dated back three or four years. She had suffered with otorrhœa for several years, at intervals, and on the complete cessation of the discharge, which occurred spontaneously, her hearing was greatly impaired. She consulted an aurist two years ago, and, according to her account, he perforated the false membrane, at that time in the ear, with improvement in the hearing, but the opening closed in one night.

No further efforts to improve the hearing were made for two years, until she came under my care. Examination showed the drum of the left ear absent, and hearing gone. In the right ear, about one fourth inch external to the normal position of the drum, and parallel to it, was a grayish, parchment like membrane resembling a thickened membrana tympani, which crackled, on being touched with a probe, loud enough to be heard by persons standing near; it completely occluded the auditory canal. The patient could understand very loud conversation only when looking at the speaker, and heard a watch only on contact.

I made a crucial incision in the membrane, from the cut edges of which bloody serum slowly exuded, showing it to be living tissue, although the incision was not painful. The flaps thus formed were cut off, the edges of the ring forming the border were cauterized with chromic acid, and a firm cotton pledget inserted in the opening. The tympanic cavity was empty, the membrane and ossicles being entirely absent, and the Eustachian tube was pervious. By the perforation the hearing was imme-

diately improved to the hearing of ordinary conversation in the same room, and a soft-ticking watch at six inches.

The following day there was considerable discharge of pus from the ear, and the portion of the canal between the spurious drum and tympanic wall rapidly filled with a tough plug of pus and epithelium, which adhered firmly to the surface and was separated with difficulty. The discharge of pus and accumulation of this toughened material was arrested, in a few days, by insufflations of salicylate of chinoline and boracic acid, and in ten days the patient was discharged with the opening nearly the full size of the canal and no appearance of irritation anywhere in the ear. Two or three weeks afterward the patient's husband told me that her hearing "was as good as anybody's."

On January 3d she returned, with the hearing nearly as bad as ever and the membrane reformed. It was again incised and cut away and kept open with cotton plugs. In two days it reformed again, the tampon having been left out. I then made an eyelet of a piece of hard-rubber tubing, five thirty-seconds of an inch in diameter, one-eighth inch bore, and one-eighth inch long, grooved in the edge. This was placed in the opening, and in one night the membrane closed into the groove, binding the eyelet fast, and it has remained in place ever since, the patient having good hearing and no discharge from the ear.

Doctor A. H. Buck reports, in his "Manual of Diseases of the Ear," p. 96, an exactly similar case, the description of which fits this one in most particulars, but at the last time the patient was seen there was a muco-purulent discharge still present which may have prevented the membrane reforming. C. H. Burnett reports analogous cases, except that the membranes did not entirely occlude the canal, and quotes Buck's case. Gruber ("Diseases of the Ear," 1890) does not mention such a case, and I do not find any others reported. In all the reported cases there were granulations springing from the walls of the canal, which coalesced, and by their union and cicatrization formed the membrane; but in my case there were no such granulations, and the only formative agent appeared to be the epithelium extruded from the canal wall.

When the membrane was reforming it had the appearance presented by skin-grafts growing on an ulcer, and I think the growth was a true hypertrophy of the epithelium covering the ring, which formed the border of the membrane, this ring being inflammatory in its origin.

Progress of Medical Science.

What Constitutes a Filth Disease? This question is answered by Dr. S. W. Abbott in the *Sanitarian*, as follows: We may reasonably conclude that a filth disease is one in relation to which filth in some form or other, either wet or dry, plays the part of an important factor only in its causation, but is not itself the direct cause; that it acts either as a favorable soil for the propagation of disease germs (other favorable conditions also existing), or that it acts as a suitable medium or vehicle for the transmission of the particulate contagion from the sick to the well, as is probably the case in the inhalation of the bacillus tuberculosis in and with the dust of filthy or ill-ventilated apartments. We may also conclude that the filth which promotes the spread of infectious diseases is specific filth, and hence the necessity of removing all filth is that thereby we are sure to remove the specific filth, or that which contains the germs of infectious disease. The point which the author desires to emphasize is, not that the removal of filth should in the least degree be discouraged, but that, when done, it should be done intelligently and with this principle in view: that filth is a condition rather than a cause; that it is the soil for the culture and transmission of infection, and not the infection itself; and just so far as the principle of infection is deprived of its proper soil, so far is one of the most important conditions of its growth and propagation removed. In the field of sanitation, the careful watching for and providing against the introduction of infectious disease, the isolation of the sick, the disinfection of houses, clothing, and other associated material, are as essential as the removal of that other condition to which attention has especially been directed.

Tumors and Tissue Insubordination.—At a recent meeting of the Royal Medical and Chirurgical Society, Professor Humphry raised an interesting question as to the etiology and nature of congenital overgrowths as compared with neoplasms of later advent. He regards these growths, whatever the particular form they may assume, as instances of tissue insubordination, thus developing a thesis embodied in the College of Surgeons' lectures on cancer, of a year or two since, by Mr. John Marshall, who suggested that malignant growths were due to the uncontrolled activity of cells which had escaped from the grasp of the nervous system. We are, it must be admitted, profoundly ignorant of the laws regulating symmetry of growth. We can only suggest, in one of those grandiloquent, but not very expressive, phrases so dear to the metaphysicist, that "forms and shapes are determined by the balance of pressure of contending forces." The idea of tissue insubordination is a plausible one, but who shall determine whether the force at work is insubordination or an influence more powerful than subordination? No essential difference can be, or at any rate has been, made out between the embryonic, or congenital, and post-embryonic growths Why a child should be born with a finger rivalling the leg in point of size, is as difficult to understand and explain as why, without obvious cause, a sarcomatous or other neoplasm should arise in later life. The assertion that the force which presides over organized forms is the same as that which confers certain definite shapes on crystals, only takes us from one dark room into another. The discussion of these abstruse points of philosophical physiology is doubtless an excellent training for the reasoning faculties, but, fortunately, therapeutics does not stand still while the rival claims of the "included germs" and other theories are being adjudicated upon.

Hepatic Cirrhosis in Children.—Cirrhosis of the liver is rare in children, if those cases be excepted which are due to congenital syphilis. This form of cirrhosis may be seen at birth, for it is even then of some standing. Dr. Blanche Edwards chiefly concerns herself with the part played by the infective maladies in bringing about cirrhosis of the liver. In a table of cases of this disease collected by her, as many as thirteen out of one hundred were of tubercular origin, and in eight of these tubercular peritonitis was the cause. Hepatic cirrhosis with ascites may be taken for tubercular peritonitis. It is hardly necessary to point to the congestion of the liver which takes place in the eruptive fevers. It is demonstrated by the bilious form sometimes shown by these febrile diseases. The finding of definite and lasting change in the liver after these acute diseases, just as such changes have been found in the kidney after scarlet fever, diphtheria, etc., is only one step further, and this has been proved by Laure and Honorat, who found lesions in the liver in five cases of measles. Thus, while the infective maladies may produce, as far as the liver is concerned, a chronic cirrhosis, it has been acknowledged that an interstitial nephritis may be due to them. P. Marie has pointed out, in addition, the part played by these illnesses in producing diseases of the nervous system—disseminated sclerosis, for instance. Cardiac disease was the most frequent cause of cirrhosis of the liver, and out of the one hundred cases, alcohol accounted for eleven. As to the morbid anatomy, sometimes the liver is enlarged, sometimes it is diminished in size, at one time red and soft, at another yellow and indurated. Here the process is generalized, and there it is

limited to a lobe, or present only in small islets. The interlobular vessels are dilated and their walls thickened. There is a proliferation of the connective tissue which sometimes penetrates into the lobule—the cells at the periphery being disorganized. The small bile-ducts are also increased in numbers. Hudels recognizes in syphilitic cirrhosis three stages: 1, Vascular engorgement; 2, infiltration with embryonic elements; 3, infiltration organized into connective tissue, viz., interstitial syphilitic hepatitis. This infiltration may be localized either as the miliary syphiloma or the gummatous nodule. In the first stage the liver is large, soft, reddish-brown or reddish-violet; later, when sclerosis has taken place, it is small and hard. If this evolution is distinctly known, as it is in syphilis, it is impossible not to recognize it in other infective maladies, when in some cases it has been proved that there is engorgement of the liver with proliferation of leucocytes when the patient dies early in the course of measles, and that there is sclerosis of the liver if the patient die late in the disease. Alongside the cirrhotic changes in cases of the syphilitic liver, there may be lardaceous degeneration—the amylo-gummatous form. Gastric symptoms, which are ordinarily so common in children, may hardly arrest the attention. There may be hemorrhages from the stomach, from the nose, sometimes into the skin, or a chronic urticaria. But two symptoms, jaundice and ascites, are especially frequent. The authoress says that instead of being opposed as they are in the adult, they are often present together. Their intensity varies, but in the cirrhosis following alcoholic poisoning or scarlet fever, ascites is prominent. Œdema of the legs occasionally occurs. Dilatation of the veins over the abdomen is very frequent. Renal cirrhosis occurred in one-fifth of the cases. Rises of temperature are often seen. The patient usually dies of cachexia, sometimes of hemorrhages.—*Le Progrès Médical.*

Condurango and Condurangin.—The following are the conclusions formulated by Dr. Guyenot as a result of a series of experiments made to test the therapeutic value of these substances: 1. Condurango employed in the form of a powder appears to be remarkably efficacious in painful affections of the stomach, and especially in the case of gastric ulcer and irritation of the gastric mucous membrane. 2. Cases of cancer of the stomach, which have been claimed to be cured as the result of treatment with condurango, are certainly to be regarded as errors in diagnosis. In all probability the majority of them were cases of ulcerative gastritis. 3. Condurangin possesses an extremely curious and interesting action. It causes a veritable locomotor ataxia, which is due, without doubt, in view of its late appearance, to the formation of some toxic substance produced by the splitting up of condurangin in the organism. 4. In view of the fact that the chemical nature of condurangin is not yet thoroughly established, and its physiological action not being thoroughly understood, the bark of condurango should be employed in therapeutics, and not condurangin.—*Therapeutic Gazette.*

Treatment of Organic Strictures of the Urethra.—The following are the conclusions of an article on this subject published by Dr. J. William White, in the *University Medical Magazine* for March, 1891: 1. Strictures of large calibre, that is, of more than 15 French, situated at or behind the bulbo-membranous urethra, are to be treated, almost without exception, by gradual dilatation. 2. Strictures of large calibre occupying the pendulous urethra are to be treated by gradual dilatation when very recent and soft, and by internal urethrotomy when of longer standing, distinctly fibrous in character, or non-dilatable. It is to be remembered that the great majority of so-called strictures of large calibre of the pendulous urethra are merely points of physiological narrowing. 3. Strictures of the meatus and of the neighborhood of the fossa navicularis should be divided upon the floor of the urethra whenever it is evident that they are real pathological conditions producing definite symptoms, and not normal points of narrowing. 4. Strictures of small calibre (less than 15 French), situated in advance of the bulbo-membranous junction, unless seen very early and found to be unusually soft and dilatable, furnish the typical condition for internal urethrotomy, which should be done preferably with a dilating urethrotome and, invariably, with all possible antiseptic precautions. 5. Strictures of small calibres (less than 15 French), situated at, or deeper than, the bulbo-membranous junction, should be treated whenever possible by gradual dilatation. In a case of resilient, irritable, or traumatic stricture in this region, or of stricture which, for any reason (as the occurrence of rigors), is non-dilatable, external perineal urethrotomy is the operation of choice. 6. Strictures of the deep urethra, permeable only to filiform bougies, should be treated by gradual dilatation when possible, the filiform being left *in situ* for some time, and followed by the introduction of others, or used as a guide for a tunnelled catheter. If the stricture be not suitable for dilatation, external perineal urethrotomy should be performed. 7. Impassable strictures of the deep urethra always require the performance of perineal section.

Treatment of Boils.—Dr. Veiel, at the annual meeting of German physicians held at Bremen, stated that he had used in the treatment of furunculosis a paste consisting of equal parts of oxide of zinc and vaseline, to which was added four per cent. boric acid. This ointment was thickly spread on lint. In cases of circumscribed furunculosis the paste was rubbed in and around the diseased parts three times daily. If the affection was universal, the whole body was rubbed with the application. Sublimate baths were at the same time used when the patient could bear them. In a case of universal furunculosis a perfect cure was obtained in seven weeks. Large boils were poulticed.—*Lancet-Clinic.*

The Treatment of Sprains.—Dr. Duhamel recommends warmly the use of a plaster composed of one part of carbonate of lead in two parts of olive-oil as an application to sprained joints. He heard of this remedy when on a visit in Holland, and on his return to France immediately put it to trial in a number of cases. Most of the cases were sprains of the ankle, and the patients were made to walk as soon as the plaster and retaining dressings had been applied. All these cases made a rapid recovery, but one case of a sprain of the wrist, in which the same remedy was applied, did not improve. The cure was obtained in all probability by the exercise of the joint rather than by any especial virtue residing in the white lead.

Morphine by Insufflation.—Dr. Von Klein claims that better effects are obtained by insufflation of morphine into the nostrils than by hypodermic injection of the same quantity. The action of the drug is observed more speedily and its effects continue longer.

Thyroid Transplantation for Myxœdema.—At a meeting of the Hospitals Medical Society of Paris, held November 14, 1890, M. Merklan presented a woman, forty-one years of age, almost a dwarf, who had, since the age of ten, suffered from well-marked myxœdema. For some years it had been noticed that the occurrence of attacks of uterine, nasal, and gingival hemorrhages coincided with an aggravation of the classical symptoms, which, conversely, receded on the cessation of the losses. The treatment adopted (seventy-two days previous to the date of the report), viz., the transplantation of one lobe of the thyroid of a living sheep to the cellular tissue of the right submammary region of the patient, determined the permanent cessation of the hemorrhages (within three days), a diminution of the infiltration of the face, and, to a marked extent, of the supraclavicular and mammary regions, a great improvement in locomotive power, and in the general health of the patient.

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & Co., Nos. 56 and 58 Lafayette Place.

New York, May 30, 1891.

THE MORTALITY FROM CHLOROFORM NARCOSIS.

THE question of the relative safety of ether and chloroform is pretty well settled in the minds of most surgeons. Yet as long as it is settled in an exactly opposite way by Americans and Europeans, the matter will continue to be discussed with interest.

The prevailing belief is that statistics will show about one death in 25,000 anæsthetizations for ether, and one in 2,500 for chloroform.

Dr. Weir, however, from a careful study of the New York Hospital statistics, found that the ratio of deaths from ether was six in 12,000 operations, or one to 2,000, a very much higher rate.

Some statistics of great interest have just been collected by Professor Gurlt and reported before the German Surgical Congress. The figures were obtained from sixty-six hospitals, mostly in Germany, and including the Berlin Charité.

Deducting (for some reason) the Charité figures, 24,675 cases of anæsthetization were reported. Of the whole number 22,656 were with chloroform, 470 with ether, 1,055 with ether *plus* chloroform, 470 with ether *plus* chloroform *plus* alcohol, and 27 with bromide of ethyl. Among the chloroform cases 71 cases of threatened asphyxia and 6 deaths occurred; among the ether cases, none even of danger; among the ether-chloroform cases, 5 of danger; among the ether-chloroform-alcohol cases, 4 of danger; among the bromide of ethyl cases, none. The chloroform used was obtained mostly from German and English chloral factories. Of 2,732 narcoses, 278 lasted an hour or more. The three longest lasted 150, 155, and 180 minutes. The average consumption of chloroform with the ordinary mask was one gramme per minute; with the Junker-Kappler mask 0.6 of a gramme. One private clinic reckoned the average consumption at twenty-five grammes per case; the maximum consumption was 180 grammes. Some of the reporters increased the narcosis by injecting morphia. The threatening of asphyxia occurred in patients of all ages and degrees of strength.

The six deaths among 22,656 cases of chloroform narcosis make the ratio about one to 3,700. This is lower than that obtained for ether from the records of the New York Hospital.

A recent article by Professor Kocher (*Correspondenz-blatt f. Schweitzer Aertzte*) sums up very well the views of an experienced surgeon, and shows that in some European clinics, at least, ether is gaining ground. Kocher says: 1, As a rule, no attempt to produce general anæsthesia should be made without close examination and thorough preparation of the patient; 2, it is advisable, and in many cases necessary, before administering an anæsthetic, to arouse the action of the heart by giving alcohol or some other stimulant; 3, the patient should always be laid in the horizontal position; 4, chloroform should never be given in cases in which the patient has not been sufficiently prepared; in tooth extraction, reduction or dislocation, and, indeed, most minor surgical operations, ether should always be substituted for chloroform; 5, in cases of cardiac disease and of disturbance of the heart's action not associated with respiratory disturbances, ether should be given and not chloroform; 6, in patients suffering from diseases of the respiratory organs, associated with hyperæmia of the tracheal and bronchial mucous membrane, ether should be rejected and chloroform administered in its place; 7, in cases of prolonged surgical operation chloroform should be carefully administered at first, the state of anæsthesia being subsequently maintained by the continuous inhalation of small quantities of ether; 8, the inspired air should never be allowed to become saturated with the vapor of chloroform; 9, when, in any case in which the operation is likely to be a long one, the administration of ether is contra-indicated and chloroform must consequently be used, a previous injection of morphine should be practised in order that anæsthesia may be produced by a smaller quantity of this agent.

SMALL INTESTINAL DIGESTION.

SOME often hitherto accepted views regarding intestinal digestion will have to be changed, if the observations recently published [1] by Drs. MacFadyen, Wencki, and Sieber are correct.

These observations were made upon a female patient in whom an intestinal fistula had been produced at a point just above the ileo-cæcal valve. The fistula was the result of an operation for hernia with grangrene. The intestine below the fistulous opening was closed, and for six months all the chyme passed out through the artificial anus. During this time the patient was well nourished, gained in weight and eliminated a normal amount of urea. The flow of the chyme from the fistula was continuous though less at night. It was found that it takes about two hours for food to pass from the mouth to the cæcum, though it requires nine to fourteen hours for the whole meal to reach that point.

Curiously enough it was noticed that the chyme was more fluid and diarrhœal on an albuminous than on a vegetable diet.

As regards the nature and properties of the evacuated materials, says *The Lancet*, it is noticeable that they were almost free from odor, containing hardly any products of albuminous disintegration, such as indol and sulphuretted hydrogen; they were slightly acid in reaction, tinged yellow by bilirubin, and, according to the predominance of flesh or starchy matter in the food, showed muscle fibre,

[1] Archiv. f. Exp. Path. u. Pharmacol. Bd. xxviii. (Hft. 3, 4.)—Lancet.

albuminous granules, vegetable fibres, starch granules, etc., and invariably a large number of various forms of bacteria. The filtrate yielded albumin, mucin, peptone, dextrose, the two forms of lactic acid, acetic acid, and the biliary acids and bilirubin.

The number and varieties of bacteria were very great, some being special to the intestine, others being common to it and the mouth. These bacteria appear to be chiefly concerned in causing disintegration of the carbohydrates into lactic, acetic, succinic and other acids. We are also told that the intestines produce a small amount of ethylic alcohol, so that every man has a little still of his own, and total abstinence is a physiological impossibility.

There has always been contradictory evidence regarding the reaction of the intestinal contents, but it has generally been believed that the acid products of the stomach digestion were made alkaline by the bile, pancreatic, and intestinal secretions. These are not sufficient, however, according to the present investigators, on account of the organic acids developed by breaking up of carbohydrates. The reaction of the contents of the small intestine is therefore feebly acid. This applies, however, only to its lower part. It is probable that in the jejunum the reaction is alkaline. If, however, the intestinal contents get too acid mucin is precipitated and there is a mucous diarrhœa.

VETERINARY MEDICINE AND THE UNITED STATES GOVERNMENT.

The Bureau of Animal Industry of the Department of Agriculture has done excellent scientific work, and is under the charge of competent men, but it is difficult to see why it should go into the business of publishing veterinary medical works. A volume entitled "Special Report on Diseases of the Horse," has, however, recently been issued by it, printed at the Government's expense. The contents have been prepared by several well-known veterinarians, and we have no doubt that the book is a good one. There is no reason, however, why the farmer and horse owner should have a volume prepared for his special help, while other citizens have to buy their books at regular rates. The practice, if logically extended, would end in furnishing to the public, manuals on the diseases of the dog, of birds, and finally on man himself. The United States Government as publisher of a volume "Every Man his Own Doctor," would furnish a fine spectacle of paternalism.

THE BRAIN OF LAURA BRIDGMAN.

Everyone has read accounts of Laura Bridgman and of the marvellous results obtained by Dr. Howe in educating her. Losing her sight, hearing, and nearly all sense of smell and taste at the age of two, she remained practically without education until the age of nearly eight years, when she was placed under Dr. Howe's care. A careful record of her intellectual progress was kept for many years, and in 1878 Professor Stanley Hall made a valuable series of physiological and psychological tests upon her. She was shown to have some sense of taste, but practically none of smell. She could not hear even the loudest noise, but appreciated vibrations. Rotation mader her dizzy. Her tactile sense was two or three times more acute than normal. Mentally she was eccentric, but not defective; she lacked certain data of thought, but not the ability to use what data she possessed. Her emotions were very lively and she had a certain hysterical tendency. She died in 1889, at the age of sixty. Her brain was obtained, and has been studied by Dr. H. H. Donaldson, of Clark University (*American Journal of Psychology*, September, 1890).

Dr. Donaldson's report is a model of careful scientific work, and contains much of interest to students of anatomy. But his findings are decidedly meagre and show little more than would be expected. The brain weighed about one thousand two hundred grammes. This is considerably below the average for women, which for Anglo-Saxon and German races is about one thousand two hundred and seventy-five. Considering her small stature and body-weight, the brain, however, was not especially small.

An examination of the lobes and convolutions showed that there was some defect in the centres for articulate language; also defect in the occipital lobes, especially the right (visual centre), and in the temporal lobes, especially the tips. This last condition may have been due to her imperfect sense of smell and taste. The fissure of Sylvius was short, and the posterior corpora quadrigemina small. A careful microscopical examination might give some important information as to the central course of the optic and olfactory tracts, but this has not yet been done. There was nothing in the appearance of the brain which would ally it to low-type, criminal, and insane brains.

THE PREVENTION OF PHTHISIS.

The high rate of mortality from phthisis induced the State Board of Health of New Hampshire to secure the opinion of the physicians of that State upon certain points in connection with the disease, such as its cause, frequency, preventability, treatment, etc. To this end blanks were sent to all physicians of the State asking them to answer nineteen stated questions. The returns were exceedingly complete, and as reported in the recently issued annual report of the State Board of Health, make interesting reading. A summary is almost impossible but the Board presents the following:

The chief causes and the preventative measures to be employed in the disease may be summarized, in the light of our present knowledge of the disease, as follows:

1. Pulmonary phthisis is the most fatal disease known to civilization.

2. The *bacillus tuberculosis* is generally believed to be the cause of the disease.

3. The disease, when developed after the first years of childhood, is acquired and not inherited, although there may be an inherited predisposition which renders the subject incapable of resisting the invasion of the bacilli.

4. The disease is liable to appear at any period of life.

5. That there is great danger arising from the use of tuberculous meat and milk. From the evidence which has been gathered we are led to believe the liability to infection from these sources is very great and to insure

public protection in this particular the State should exercise a careful supervision of our milk and meat supplies.

6. That the greatest danger of infection is from the sputa of the consumptive. For this reason, when confined to the house, a spit-cup or spittoon should be used, and when upon the street a handkerchief to receive the expectorations. The spit cup or spittoon might preferably contain a disinfectant, but if these vessels are frequently and thoroughly cleansed with boiling water, disinfectants are not an absolute necessity. The handkerchiefs should be immersed in boiling water at least once daily before the sputum has become dried.

7. No person should occupy a sleeping room with another who has tuberculosis, although many persons escape infection under such conditions.

8. The eating utensils of a consumptive should be washed in boiling water, and care should be exercised that the same glasses, spoons. etc., are not, before being washed, used by children and others. The patient should avoid kissing others or placing in his mouth any article likely to be used or handled by others.

9. The dejections of consumptive patients in cases where the bowels are affected should be thoroughly disinfected.

10. Perfect cleanliness of the apartments occupied by consumptives should be urged in all cases. The bed-linen, towels, etc., should be very frequently put through the operations of the laundry, while the walls should be frequently cleansed and dressed anew. In fact the whole question of restriction may be expressed in the one word "cleanliness."

A PLEA FOR PUBLIC BATHS.

The City of New York expends over three and a half millions annually in charitable work, and furnishes relief of various kinds to over half a million of people. Most of this work is for the care of the sick and helpless, and it, no doubt, is of the highest value in relieving the poor and unfortunate. Dr. S. Baruch, however, who gives the above figures in an article entitled "A Plea for Public Baths" (*Dietetic Gazette*, May, 1891), calls attention to the fact that while so much is done to help sickness and distress, comparatively little is done, aside from the watch over infectious fevers, to prevent it. And among the most important of preventive measures he rightly places personal cleanliness. In an interesting review of the history of public baths, we are told that at one time Rome possessed 856 of these institutions, and used 400,000,000 gallons of water in supplying them. The price of admission averaged about one-third of a cent, so that they were practically free. In later times the use of public baths was very common, and it seems that it is only in these later days that they have fallen into some neglect. A change, however, in this respect is taking place. In London, Brussels, Vienna, Berlin, and many of the smaller cities of Germany, these institutions have been provided by the local government or benevolent societies.

New York has not entirely neglected the matter. The city has erected fifteen public swimming-baths which are open four months in the year, and in which last year the total attendance was 2,700,000. That sufficiently proves the popularity of such institutions, and shows with equal emphasis the need of their extension. The use of the floating-baths, however, could not be extended into the cold months without enormous expense; hence Dr. Baruch's suggestion that there be constructed numerous places where rain- or shower-baths can be had. Baths of this kind can be supplied at a minimum of expense and maximum of utility as regards both cleanliness and enjoyment. Nor are they in any sense an experiment. In Berlin, where public rain-baths have been established, the attendance in six months was 103,000, at an individual expense of two and a half to twelve and a half cents. They have been equally successful in Vienna, Magdeburg, Cologne, and several other cities of Germany. Already the Society for Improving the Condition of the Poor, of New York, has begun the construction of a People's Bath-house, which is intended to accommodate 500 daily.

The good work is begun, but it is evident that a single establishment must prove very inadequate, however great its individual capacity. There should be a number of baths distributed throughout the city and convenient to the tenement-house population. We see no reason why the city should not undertake this work since it would redound so much to the health of the people.

Said Dr. Hufeland: "I regard cleanliness and the cultivation of the skin as the chief means for the prolongation of life."

The American people in the past have acquired a rather unenviable reputation for their niggardliness in supplying themselves with bathing facilities. It is a reproach which ought to be removed, and the establishment of public baths in our great cities will do much to promote this end.

THE DAY OF THE PATHOLOGIST.

Dr. J. Mitchell Banks, of Liverpool, thinks it is at hand. In his inaugural address, "Some Observations on Medical Education," he says, in reference to the best use of time and energy in learning how to be a doctor, and in reference to sciences destined to prove of utmost value in after-life to the medical aspirant: "To affirm that botany is of any practical utility to a doctor in his profession is absurd. When men made their own tinctures and infusions from the plants which they gathered with their own hands, botany might have been of some use. . . . With regard to zoölogy, I am told that the student who has dissected his frogs and worms and limpets is in a much better position to commence the study of human anatomy than one who has not. For the sake of argument I will admit that he is so at the commencement of the winter session. Long before the end thereof his advantage is gone. In a very few weeks the perfectly fresh student picks up his anatomical terms, and sees his way about his dissection, while the gentleman who has spent a good deal of time in the company of the frog finds that his knowledge does not help him much with the relations of the femoral artery or the prostate gland. And the same criticism applies to chemistry, where the amount of knowledge forced into the student is infinitely beyond what the exigencies of his profession will ever require from him. . . . Take the enormous field of pathology and morbid anatomy. You wish the student to understand the use of the microscope. What better field for its use? You wish to perfect his manual

dexterity. I know of nothing more useful to this end than the dissecting and mounting of morbid specimens. . . . And if you want to teach your student habits of methodical study, is not the classification of disease as good for that purpose as the classification of plants? Does he want to learn how to observe carefully and record accurately? Is not the making of one autopsy as valuable in that respect as the dissection of many limpets? Our neglect of pathology and morbid anatomy in this country has been simply shameful. The Germans have beaten us out of the field in this respect. We are slowly waking up to our defects in this matter, and the day of the pathologist is coming. I hail it with joy, and I do not care if his science drives out of the field all the so-called preliminary studies I have been tilting at. Their bearing upon true medicine is almost *nil*. As a means of mental training they offer nothing which the study of pathology cannot give too. While the student is working at that he feels that he is acquiring knowledge which will serve him in good stead every day of his life—knowledge, moreover, which he can only learn during his student career, because, when he enters into practice, the post-mortem room and the laboratory are no longer within his reach."

TREATMENT OF EXTRA-UTERINE PREGNANCY.

The *Gazette des Hôpitaux*, February 3, 1891, finds in A. W. Gilchrist's "Thèse de Paris" upon the subject of ectopic gestation many practical suggestions of which the following are perhaps the most important: The discovery or mere suspicion of extra-uterine pregnancy before the fifth month is an indication for laparotomy. In event of intra-peritoneal rupture, laparotomy becomes at once an urgent necessity. If, however, the rupture is simply intra-ligamentary, sagging, or tearing, surgical interference is not imperative unless signs of hemorrhage suggest imminent rupture of the sac and effusion into the peritoneum. After the fifth month, and before the ninth, interference of any kind is only justifiable under the following conditions: 1, When there is death of the fœtus and some complication resulting from it; 2, in event of secondary rupture of the sac; 3, when signs of intolerance of the pregnant state are present. Ectopic gestation on term calls for the usual operation, modified according to modern progress in laparotomy. This is the only procedure then to be recommended. Signs of the death of the fœtus at or near term necessitate an immediate laparotomy. An old suppurating fœtal cyst should be treated as a case of pelvic abscess. Elythrotomy is for exceptional cases only, and so are perincotomy, the parasacral incision, and pelvic extraction. Puncture, injection, and electricity, always dangerous and unreliable, should be rejected as unsuitable measures. Care of the secundines varies according to circumstances. In the simple interstitial form enucleation is the best method. In case the placenta is diffuse and adherent to the abdominal viscera, everything should be closed up with the greatest care and left in its original position. Evidences of septicæmia or intolerance of the presence of the secundines calls for a secondary laparotomy. If the placenta is dense, in which case it is but slightly adherent, it may be removed. Total extirpation of the placenta, whenever practicable, is always the best way to dispose of it.

TREATMENT IN FRIEDREICH'S DISEASE.

In *Brain* (Part LII.) appears Dr. P. Ladame's exhaustive treatise on hereditary ataxia, in which occurs the following, in substance, concerning treatment: As prophylactic measures in the case of predisposed children, sound hygiene, hydrotherapy, rational gymnastics, careful education, and intelligent supervision to prevent fatal habits of masturbation that would hasten the downward progress of the disorder by exhausting an already feeble spinal cord, are of first importance. In the antecedents of those suffering from this disease, excesses in Onanism and alcoholism are frequent items of family history. Applications of continuous currents, ten to fourteen milliampères three times a week, stabile and labile, to the vertebral column by means of large electrodes, give a sensation of well-being to the patient that lasts for some time. He is apparently stronger, more active, and less uncertain. This treatment alone, continued for years at regular intervals, may possibly arrest the progress of Friedreich's disease. The second method is that of suspension, recommended by M. Charcot, by which some good results have been obtained at the Salpêtrière. Three hundred suspensions resulted in improvement in speech and in the general condition in one of Dr. Ladame's cases. The ataxia and weakness of the extremities have not been at all modified; the club-foot, scoliosis, nystagmus, abolition of knee-jerk, and choreiform instability still remain. Would more have been gained by employing Sayre's jacket, as was suggested by Gilles de la Tourette? The author thinks not; adding, however, that it is a medical duty to try everything in a disease against which there is as yet no efficacious means of treatment.

News of the Week.

Female Druggists.—The Russian universities are to establish courses for the instruction of young women as druggists.

The Influenza has been prevailing to an alarming degree in Norway. The mortality in Christiana has increased ten per cent.

Sexual Perversions.—In a paper on this subject, by Dr. Kiernan (*Alienist and Neurologist*), the author stated that a New York male physician with a large practice always wore feminine dress.

A Chance for Female Doctors.—The State Civil Service Commission will hold an examination for lady physicians to State insane asylums in the Capitol at Albany, on June 11th. All who reside in the State and have had one year's experience in hospital practice or three years' general medical practice are free to compete.

Dr. Koch, according to a German paper, has the bad habit of sitting up late at night and not rising until nine o'clock. We are also told that he takes soup for breakfast instead of coffee, and drinks much soda-water with his dinner.

Ether Drinking in Michigan.—A correspondent communicates to *The Medical Age* the prevalence of one sort of ether drinking—the compound spirits of ether—in the northern counties of the State of Michigan, principally among the Finns, Swedes, and Poles. It is generally consumed with alcohol or whiskey.

Cases in Obstetrics.—An interesting tabulation of the first 1,000 cases of obstetrics in the Sloan Maternity Hospital, New York City, appears in the pages of the last issue of the *American Journal of Obstetrics*. The oldest patient confined was forty-six years of age, while the youngest was twelve years and ten months of age. The largest number (659) were between twenty and thirty years of age. Also in the largest number (547) it was the first pregnancy, while in one case occurring in the table it was the patient's seventeenth confinement. Of the presentations 936 were vertex, and of these 610 occupied the L. O. A. position. As to operative interference, there were 112 in which it was required, as follows: induction of labor, 12; forceps, 83; version, 14; craniotomy, 3. Of twin cases there were 13, about 1 in 77 of the whole number of women delivered. In the forceps cases the returns are certainly noteworthy. Out of the 83 cases none of the mothers died. Of the 84 children 75 were living, 9 still born, including premature twins. In nearly all the cases the long curved forceps (McLane's) were used, both in high and low operations. Of the fatal cases in this report we have as causes, chronic Bright's disease, 1; rupture of uterus, 1; placenta prævia, 1; placenta prævia with contracted pelvis, 1; eclampsia, 1; septicæmia, 1; total, 6. On analyzing these deaths it is seen that one was from chronic organic disease and not labor; in another the patient was moribund when taken from the ambulance; in a third—placenta prævia—there was much delay and great bleeding before assistance could be given. The septicæmia case was admitted while in the second stage of labor, and was in a very filthy condition. The showing, therefore, is highly creditable.—*Journal of American Medical Association.*

An Anxious Doctor.—The following clipping from the Elk Hart (Indiana) *Review* has been sent to *The Medical News:* One of our physicians recently received the following letter from a country physician (?): "Dear dock I hav a pashunt whos phisicol sines shoes that the windpipe has ulcerated of, and his lung have drop intoo his stumick. he is unabel to swoller and I feer his stumick tube is gon. I hav giv hym evry thing without efeckt. his father is welthy, Onerable and influenshial. he is an active membber off the M. E. Chirsch and god nose I dont want too loose hym. what shal I due. ans. buy returne male. yours in neede."

A Fund to Establish a Four Years' Medical Course in the University of Pennsylvania.—The Board of Trustees of the University of Pennsylvania, at their meeting last Thursday, received from Dr. William Pepper, Provost of the Medical Faculty, an offer of $50,000 toward a permanent endowment fund of $250,000 for the medical department, and $1,000 annually toward a guarantee fund of $20,000 a year for five years. This offer is made subject to the provisions that the University shall decide, before June 1st, that it will establish a four-year obligatory graded course of medical study, to be established before September 1, 1893; also, that the endowment and guarantee funds be fully subscribed before January 1, 1893. Dr. Pepper's letter was accompanied by a communication from the Medical Faculty pledging it to carry out the proposal for the four years' course. The members of the Faculty have subscribed $10,000 a year for five years toward the guarantee fund, which is to cover any present deficit in the operation of the new plan.

The Academy of Medicine of Baltimore is defunct. Instituted in May, 1877, by a number of the older physicians of the city, it began an unpopular career by requiring that candidates for membership should have been ten years in practice. Later it relaxed so far as to permit those excluded, to enter upon the presentation of an acceptable thesis.

A New Private Polyclinical Institute of some importance, and on a large scale, has just been opened in Berlin. It is to go by the name of the "Johanneum." The institute is to combine hospital practice with clinical instruction and theoretical research. It contains eighty beds, is furnished with laboratories, microscope rooms, etc., an electro-mechanical institute, and a lecture theatre, in which courses are to be given by Professor Eulenburg on diseases of the nervous system; by Professor Zülzer on diseases of the kidneys and bladder; and by Dr. Scheimann on diseases of the nose and throat.

A Counterblast to Alcohol.—Professor Forel has recently published an address delivered by him to the students of Christiania and Upsala on "Drinking Habits: their Hygienic and Social Importance, and their Relations to Academic Youth" (Enke, Stuttgart). His thesis may be stated in his own words as follows: "Alcohol, together with the worship of the Golden Calf, is the true Devil of the nineteenth century." Professor Forel vehemently denies all virtue to alcohol, whether as a stimulant or a food; he refuses to admit that it is a source of national wealth, a question on which finance ministers are apt to hold a different opinion. As showing the enormous quantity of alcoholic drink taken even by persons who might be supposed to be ethically as well as educationally superior to the common herd, Dr. Forel gives the following extraordinary statistics as to the amount of intoxicating liquor consumed at a public banquet during the International Medical Congress at Berlin last August. The number of guests was 4,000, and among them these thirsty souls—representing, be it remembered, the very head and front of the medical profession throughout the civilized world—drank 15,382 bottles of wine, 22 hectolitres of Bavarian beer, and 300 glasses of brandy. "Can we wonder," says the *British Medical Journal*, "that scenes the reverse of edifying are said to have followed this Gargantuan symposium?" From other sources we are much inclined to question the correctness of Forel's figures.

American Association of Andrology and Syphilology.—The fifth meeting of this Association will take place in Washington, D. C., on September 22–25, 1891, in connection with the Congress of American Physicians and Surgeons. Daily sessions will be held from 9 A.M. to 1 P.M. *Preliminary Programme.*—The following papers have been promised: "A Review of the Evidence of the

Transmission of Syphilis to the Third Generation," by Dr. Abner Post, of Boston; "Relation of Syphilis to Stricture of the Rectum," by Dr. R. W. Taylor, of New York; "Surgery of the Ureter," by Dr. A. T. Cabot, of Boston; "Some Experience with Suprapubic and Perineal Drainage, Temporary and Permanent, in Vesical Disease," by Dr. Edward L. Keyes, of New York; "Some Cases Illustrating Urinary Retention from Unusual Causes," by Dr. Francis S. Watson, of Boston; "On the Radical Cure of Urethral Stricture by Restoration of the Mucous Membrane to the Normal Condition," by Dr. John P. B. Bryson, of St. Louis; "Observations upon the Syphilitic Cachexia," by Dr. J. Blake White, of New York; "An Obscure Case of Chronic Non-specific Urethritis of Sixteen Years' Standing," by Dr. George E. Brewer, of New York; "New Methods for the Treatment of Urethral Disease Effected by the Use of the Speculum," by Dr. F. Tilden Brown, of New York; "Rupture of the Bladder," by Dr. A. T. Cabot, of Boston; "Encysted Stone, Complicated with Growths of the Bladder," By Dr. C. H. Mastin, of Mobile; "Short Note on a Case of Urinary Tuberculosis Treated by the (Koch) Subcutaneous Method," by Dr. Edward L. Keyes, of New York; "On the Use of Salicylic Acid in the Treatment of Certain Forms of Cystitis," by Dr. John P. Bryson, of St. Louis; "The Dry Poultice in the Treatment of Epididymitis," by Dr. George E. Brewer, of New York; "Exhibition of an Antiseptic Syringe for Hypodermic Medication," by Dr. J. Blake White, of New York; "On the Occurrence of Nephritis in Early Syphilis," by Dr. J. A. Fordyce, of New York. J. A. Fordyce, *Secretary*.

How to Get a Sugarless Milk.—Milk is usually forbidden diabetics on account of the sugar (galactose and dextrose) which it contains. Dr. A. E. Wright has discovered a method of making sugarless milk (*British Medical Journal*). Take a quantity of milk, dilute it with three or four volumes of water, to which 1 to 2 parts per 1,000 of acetic acid have been added. This produces a precipitation of all the casein and fat of the milk. The precipitate is allowed to settle for a few minutes, and then strained through a piece of calico. The precipitate is then washed, and redissolved in a one per cent. solution of the following mixture of salts:

	PARTS
Sodium chloride	11.5
Potassium chloride	9.9
Monopotassium phosphate	13.8
Dipotassium phosphate	10.0
Citrate of potassium	5.9
Dimagnesium phosphate	4.0
Magnesium citrate	4.4
Dicalcium phosphate	8.0
Tricalcium phosphate	9.6
Calcium citrate	25.5
Calcium oxide	5.5
Sodium carbonate	40.0

A trace of saccharin may be used to sweeten the milk, and the salt solution is best used at about blood temperature, and the casein and fat precipitate is to be mixed up with it, as in making cocoa, to the desired thickness. We obtain by this easy method a very fairly palatable and entirely sugarless milk. The precipitated casein and fat can also be dried without undergoing alteration, and then used for the preparation of the milk.

Bequests to Medical Charities.—By the will of the late Mr. John T. Farish, who died in this city on May 13th, charitable bequests are made to St. Luke's Hospital, $50,000; Home for Incurables, $50,000; New York Cancer Hospital, $25,000; Hospital for Ruptured and Crippled, Nursery and Child's Hospital, House of Rest for Consumptives, and Manhattan Eye and Ear Hospital, each $10,000.

Artificial Quinine.—"This is the discovery of the week; indeed, we may say of the year," says the Paris correspondent of the *Lancet*. "The synthesis of that useful, nay, indispensable substance, quinine, has long been a desideratum, and now, thanks to MM. Grimaux and Arnaud (the former Professor of Chemistry at the École Polytechnique, and the latter having succeeded the late illustrious centenarian, Chevreul, at the Muséum d'Histoire Naturelle) the chemical dream has been realized. The method adopted by these gentlemen is as follows: The base cuprein contained in the shrub Remijia pedunculata, growing in Brazil, is treated with sodium, then the combination thus obtained is chloride of methyl. The product is quinine absolutely identical with the substance with which we are familiar."

University of the State of New York, Examination Department.—The following amendment to chapter 507 laws of New York, 1890, was approved by the Governor on May 4, taking effect immediately, as chapter 311 of the laws of 1891:

"This act shall not apply to any student who duly matriculated in some legally incorporated medical college of the State of New York before the 5th day of June, 1889, provided that such student shall file with the secretary of the board of regents of the University of the State of New York, a certificate setting forth the fact of such matriculation, verified by the applicant and signed by the secretary of the faculty of the college at which he matriculated."

This act will exempt only such students as file the required certificate in the Regents' office, on or before August 4, 1891. The following is the form of the certificate:

It is hereby certified that was on 18 duly registered on its official records as a fully matriculated medical student in

Signed, —— — ,
Secretary of the Faculty.

State of New York
City of } *ss.*
County of

being duly sworn says that he is the identical person referred to in the above certificate and that all the statements therein set forth are true.

Sworn to before me
this day of 1891.

—— — ,
Notary Public.

Accepting Albany Medical College Library by the State.—The Governor has signed the bill providing for the acceptance by the State of the Albany Medical College Library, and appropriating $5,000 for taking proper care of the same.

The St. Francis Hospital, New York.—Dr. Edmund C. Wendt has resigned his position as curator of the St. Francis Hospital.

The Seventh International Congress of Hygiene and Demography will be held in London, August 10–17, 1891. The meetings of the Section of Preventive Medicine will be held under the presidency of Sir Joseph Fayrer in Burlington House, Piccadilly, on Tuesday, Wednesday, Thursday, and Friday, August 11th, 12th, 13th, and 14th, between 10 A.M. and 4 P.M. On Tuesday, August 11th, after a short address by the President, a discussion will be held upon "The Mode of Preventing the Spread of Epidemic Disease from one Country to Another." The discussion will be opened by Surgeon-General J. M. Cunningham, C.S.I., of London. On Wednesday, August 12th, a discussion will be held upon "Diphtheria, with Special Reference to its Distribution and to the Need for Comprehensive and Systematic Enquiry into the Causes of its Prevalence in Certain Countries or Parts of Countries, with a View to its Prevention." The discussion will be opened by Dr. Edward Seaton, of London, and continued by leading representatives of France and America. On Thursday, August 13th, a discussion will be held upon "The Relation of Alcoholism to Public Health, and the Methods to be Adopted for its Prevention." The discussion will be opened by Sir Dyce Duckworth, LL.D., M.D., of London, and by Professor Westergaard, of Copenhagen. On Friday, August 14th, papers on miscellaneous subjects will be read and discussed. A list of papers accepted by the Section will be published later. Gentlemen who are desirous of joining the Congress and taking part in any of the above discussions, or of communicating papers on other subjects within the scope of the Section, are requested to inform the Honorary Secretaries of the Section not later than June 15th. Abstracts of papers to be read in the Section must be furnished to the Honorary Secretaries not later than June 15th; and the full text of the papers before July 15th. Communications respecting the Section should be addressed to

DR. ISAMBARD OWEN,
40 Curzon Street,
London, W.

How to Remove Superfluous Hairs.—"Doctor" asks: Can you or some of the readers of your journal give me a reliable preparation for removing superfluous hairs without using electricity?

The Midwifery Dispensary.—We have received the first annual report of this institution for the year 1890. During the year, 330 applications were made, of which number, 199 women were attended in labor, the others being referred to other institutions or seeking other attendence. The objects of the dispensary are to provide lying-in women with competent medical attendance in their own homes, and at the same time to obtain the material for practical obstetrical teaching to medical students. This institution does not appear liable to the objection which we have so often urged against dispensaries in general, since the patients are obtained from a class that seldom seeks medical aid in childbirth, being usually content with the services of an ignorant midwife or of some charitably disposed neighbor. The procuring for students of practical clinical instruction under the supervision of competent instructors supplies a want that has hitherto been very imperfectly met. The advantage of obstetrical practice in the homes of the patients rather than in well appointed hospitals, is another feature of the work that commends itself at once. The dispensary is located at 312 Broome Street.

The Association of American Medical Colleges.—The following officers were elected at the annual meeting of this association in Washington, in May, 1891: *President*, N. S. Dows, of Chicago: *First Vice-President*, L. McLane Tiffany, of Baltimore; *Second Vice-President*, P. O. Hooper, of Little Rock; *Secretary* and *Treasurer*, Perry H. Millard, of St. Paul.

The German Congress of Internal Medicine met at Wiesbaden, April 8th to 12th, under the presidency of Professor Leyden.

Dr. Naunym read a paper on "Diseases due to Gall-stones." He said that in the aged there are often but few symptoms, so that during life no diagnosis is made; for whereas among younger persons five to six per cent., or even ten to twelve per cent., of all bodies examined contain gall-stones, in aged subjects the proportion is much higher. According to Schröder, women are affected five times as frequently as men; before thirty they are rare; about twenty-five per cent. of the cases occur after sixty. Women who have borne children suffer more than others. It is inferred, therefore, that conditions causing stagnation of bile are the cause of the affection, such as pregnancies, tight-lacing, etc. The type of costal respiration in females is a favoring circumstance. The frequency of the affection in the aged points also to stagnation due to atony. Artificial inspissation of bile does not form calculi, nor does the precipitation of insoluble substances; but it is is far more probable that they arise exclusively from a change in the epithelium of the mucous membrane of the bile-ducts. The phenomena of the disease may be divided into regular typical cholelithiasis and irregular atypical forms, the latter often leading to cancer, and therefore of bad prognosis. As to treatment, he remarked that but little was to be expected from so-called solvents, as it had been shown that only very small amounts—of poison, for example—passed into the bile. The effect of "cholagogue" remedies so generally prescribed had been left in doubt by experiment. A mixed diet causes a larger flow of bile than any drug, and solvent remedies are irrational, since the bile itself is a complete solvent for material contained in it. The excretion of bile must be mechanically aided by improved clothing. The use of salicylic acid, etc., to prevent bacterial infection is not of much service. Since every error in diet brings on attacks, a main indication is strict dieting. The good effect of Carlsbad waters is perhaps due to excitation of peristalsis. Surgical treatment has, owing to the position of the gall-bladder, a fair prospect of good results, and in many cases the gall-bladder should be entirely removed. It is usual in practice to regard jaundice as the chief symptom, but very often there is no jaundice present, and the suffering in such cases is often only regarded as gastralgia.

Iodism may be prevented, it is said, by the administration of five grains of bicarbonate of sodium three times a day.

Society Reports.

American Medical Association.

FORTY-SECOND ANNUAL MEETING.

Held in Washington, D. C., Tuesday, Wednesday, Thursday, and Friday, May 5, 6, 7, *and* 8, 1891.

(Continued from page 609.)

OBSTETRIC SECTION

SECOND DAY, WEDNESDAY, MAY 6TH.

The Treatment of Accidental Abortion was the subject of a paper by DR. BEDFORD BROWN, of Alexandria, Va. The paper was the result of the observation and care of more than two hundred cases of accidental abortion occurring during an experience of forty years. When called to a case he gives first $\frac{1}{4}$ grain morphia, and $\frac{1}{60}$ grain sulphate of atropia hypodermically. And if there is much hemorrhage and depression, $\frac{1}{60}$ grain strychnia and 20 minims of ergot to induce contraction of the arterial system and strengthen the heart. Then douche the vagina thoroughly with hot water containing permanganate of potash. If the hemorrhage still continues, a pint of hot water containing an ounce or more of alum is thrown into the vagina. This cleanses it of all coagula and causes decided contraction of the os uteri, and the formation of a fine clot in the cervical canal, which, acting as a plug, arrests hemorrhage for a time and does not increase the tendency to abortion as does the tampon. These measures failing and matters becoming serious, he packs the vagina with iodoform gauze. This failing, he passes the dilator into the cervix and injects three drachms of ergot into the rectum. This induces forcible uterine contractions and forces the fœtus and secundines through the dilated os. In the event that the placenta is still retained, we then have one of the most embarrassing complications of abortion. He has little faith in ergot for the arrest of hemorrhage in retained placenta or for the expulsion of that body. In the delivery of retained placenta, he has long since discarded all instruments as hooks, forceps, and curettes as unsatisfactory, and relies on the fingers alone. At the fourth month and after he has found it necessary to introduce the entire hand into the uterus, so as to be able to remove the retained placenta. In abortion the placenta and its retentions are the cause of more anxiety, trouble and annoyance than all other questions. The resultant hemorrhage, the sepsis, the local inflammations, the organic changes, the subinvolutions and septicæmia arising from its retentions, render its early, prompt, and thorough removal a matter of paramount importance. Safety, speed, and completeness are the principal questions for consideration. The use of the tampon to restrain hemorrhage in retained placenta is not wise, if we can avoid it. The principle is unwise and unscientific. It seals up a putrefying, sepsis-generating mass of animal matter in an organ, which we would not dare do in any other organ of the body. He was fond of the iodoform gauze conicals-haped tampon, introduced on the screw dilator into the cervix in cases at the third month, dilating the os one and a quarter inch, then douching the vagina with a hot antiseptic solution, and three drachms of the fluid extract of ergot thrown into the rectum. To counteract collapse he uses successfully morphia, atropia, and strychnia hypodermatically, also sometimes whiskey, while he favors the injection of hot water 110° F. with a little chloride of sodium and bicarbonate of soda. This is given by a hypodermic syringe holding an ounce, and twelve or fifteen of them are given, thus adding about a pint of warm fluid to the circulation. An enema of hot beef-tea and water is also an advantage. Absolute rest of mind and body in the recumbent position is very necessary.

Can the Gynecologist Aid the Alienist in Institutions for the Insane? was the subject discussed with great vigor by DR. I. S. STONE, of Washington. The doctor had systematically investigated the present status of medical practice in the institutions for the insane in many of the States. His investigations opened up the fact that the superintendents of asylums, with but few creditable exceptions, felt themselves competent to treat all phases of diseases of woman, or in fact to be full fledged specialists in all departments, and were not at all gracious to outsiders, especially gynecologists, who might endeavor to offer aid. To his inquiry, "Can the gynecologist aid the alienist in institutions for the insane?" he received largely negative replies. He drew the inference that asylum superintendents thought gynecologists meddlesome and bungling men who did more harm than good. So far as he was able to determine, female diseases were seldom recognized, much less treated, by these superintendents, and he propounded the query, "Why is it that insane women apparently do not have the same diseases that afflict so many sane members of their sex?" The doctor urged in closing that the fullest details be obtained, that we may know the real relation between diseases of the female pelvic organs and insanity.

DR. BYRON STANTON, of Cincinnati, said that when a man became an asylum superintendent he ceased to be a competent doctor.

DR. JOSEPH EASTMAN, of Indianapolis, reported a case where a woman was incarcerated in an asylum for a year and discharged hopelessly insane, and then cured by an operation at his hands. This, too, when the possibility of female trouble had been suggested before she entered the asylum, and frequently during her stay there. The superintendent would have it that it was nothing but a neurosis, and that she was incurable. The extent of her cure may be known by the fact that she now occupies the position that she held before her insanity, viz., lady superintendent of schools. The operation performed in this case was the removal of the appendages, and was necessitated by the finding on exploratory incision that one of the Fallopian tubes was bent sharply on itself and bound down tightly by a peritonitic adhesion. In operation on patients insane from self-abuse he had been completely successful in one case, and partially so in another.

DR. J. H. MCINTYRE, of St. Louis, added his testimony to that of Dr. Stone.

DR. EDWIN WALKER, of Indianapolis, thought a very large number of our cases were neuroses, though some of them were doubtless due to gynecological troubles.

DR. C. A. L. REED, of Cincinnati, who has written a *brochure* on this subject, called Dr. W. W. Potter, of Buffalo, to the chair, and said that he had given this subject serious attention for a number of years. He was satisfied of the sound scientific basis for reform which would involve the appointment, not only of gynecologists but of specialists in all other departments, as staff officers to asylums. The fact unearthed by Dr. Stone, that the alienists did not want the assistance of anyone else in the care of the insane, revealed an alarming state of affairs. The claim that the medical superintendent, who is generally a housekeeper, a gardener, a jailor, and who at the same time was competent to treat diseases of the eye and the ear, of the lungs, pelvis, and every other special organ, was preposterous. The claim is made, however, by these gentlemen, and is a clear demonstration of their pretentiousness. The doctor challenged any superintendent of this class to an experiment, the result of which would be as interesting to science as startling to humanity. He challenged them to submit their patients to an examination of specialists representing the different branches of medicine, merely for the question of diagnosis. He staked his reputation for truth and veracity that the examination would reveal curable diseases, in many instances the cause of the insanity, the existence of the former never having been suspected by the alleged medical colossus who is known as the superintendent. The

evil he asserted was not a scientific one. It had passed beyond that point. It is now a problem in political economy, nothing more nor less than the eradication of the self-perpetuating scheme of superintendency, which is as pernicious as was ever priestcraft in its worst state.

A Certain Class of Obstetric Cases in Which the Use of Forceps is Imperatively Demanded, was the title of a paper by Dr. Augustus P. Clark, of Cambridge, Mass. If there is to be a resort to either the forceps or internal version, the former should be chosen. The former conditions thought to demand the use of the forceps, undue distance from the soft parts, great debility of the patient, and the occurrence of convulsions, fall far short of being the present status. When the head of the fœtus has descended into the cavity of the pelvis and the labor has become lingering from uterine inertia, the forceps may be used with great advantage. In protracted labor, when the fœtal head has engaged the pelvic brim, or has only reached that introitus and become arrested in its descent, the forceps should be preferred to all other means of relief. The necessity of the application of the forceps in such cases implies the normal or nearly normal proportion of the pelvic cavity. In cases of protracted labor where the head has not yet reached the pelvic brim, the fœtus still alive, his experience is largely in favor of the forceps. In every such case the forceps should be of requisite length and of a curve adapted to the peculiar curve of the pelvis. The frequent employment of the forceps merely for the shortening of labor, betrays lack of appreciation of the real advantages to be derived from instrumental interference, also want of conception of the dangers either immediate or remote which may follow in any case in which the forceps have been brought into requisition.

A New Forceps was Presented by Dr. L. E. Neale, of Baltimore. The pair of forceps which the doctor presented for the inspection of the Section had occupied his attention since 1886. The idea was a combination of the axis-traction forceps and the ones commonly in use. He claimed little originality in the instrument, it was simply the combination of the two varieties. The forceps had peculiar curvatures both pelvic and cephalic, and a peculiar basket and bulging shape of the inferior rib. The forceps may be used in all operations, and combines the utility of both varieties completely.

Axis-Traction and a Combined Axis-Traction Forceps, to be used as a substitute for craniotomy and version in pelvic deformities, were presented by Dr. T. J. McGillicuddy, of New York. He said the upper part of an infant's brain would stand considerable compression without injury. The base would not stand much. In this was seen the wisdom of encasing the latter part in a firm bony case, while the former was not so protected. He advocated his instrument as a substitute for craniotomy.

Dr. Chas. P. Noble, of Philadelphia, considered the subject of axis-traction forceps one of the most important which could be brought before this Section. The great merit of these forceps is that force is not wasted by dragging the head against the bony framework of the pelvis, especially the symphysis pubis. An unfortunate omission in Dr. McGillicuddy's forceps is that force is wasted in this way. This is not the case with Dr. Neal's forceps. Dr. McGillicuddy's forceps are similar to Huber's abandoned oues.

Dr. Joseph Hoffman, of Philadelphia, imagined that Dr. Neal's forceps, on account of the joint being so far removed from the handle, would be difficult to operate. He thought McGillicuddy's forceps immaterially different from those of Huber. These forceps do good work, but will fail in the lateral rotatory motion. Tarnier's forceps, though used to a certain extent in this country, are not used in Paris.

Dr. H. D. Fry, of Washington, hoped that Dr. Neal would make one more change in his forceps before he quit, as they made dangerous compression.

Dr. McGillicuddy answered that Huber's instrument had non-removable handles, and this was the reason it was abandoned. His forceps had removable handles.

Third Day, Thursday, May 7th.

The After-treatment of Cases of Abdominal Section, was the subject treated of by Dr. Charles. P. Noble, of Philadelphia. That which is accomplished in the after-treatment in abdominal section is principally of a negative character. The object is to protect the patient from all sources of danger while nature does her perfect work, sustain the powers of life, enable the patient to pass a crisis, to keep the emunctories active, and to prevent wound secretions from becoming a source of poison. Plenty of air, light, and ventilation. First twenty-four hours, give nothing in the way of food. Rinse the mouth with water, or if thirst excessive, enemas of equal parts of beef-tea and water. Second day, one or two drachms of water every half-hour. In thirty-six to forty-eight hours, one or two drachms of beef-tea at frequent intervals. If all goes well, on the fourth or fifth day water *ad libitum* may be given. After a week soft diet, and after two weeks a full diet. The drainage-tube used unless contra-indicated. It should be packed in sterilized cotton unless hemorrhage excessive, and a rope of gauze wet with bi-chloride passed down to the Douglass pouch and out to the cotton. In this way the most of the fluid is removed by capillary attraction. If hemorrhage excessive, it is better to use rubber dam about the tube. Surgeon should render his hands aseptic before handling the tube. The bladder should be emptied by the patient if possible. Care should be taken to avoid catheter cystitis. This is best accomplished by using a glass catheter. Bowels should be opened early, second or third day. The pain after abdominal section is largely intestinal, due to flatus or irregular peristalsis, and the best way to relieve it is to open the bowels. They should be kept open on alternate days during the convalescence. Thirst can often be appeased by bathing the hands in ice-water. Glycerine and ice-water will relieve dry mouth, but the sweet taste of the glycerine is objectionable to most patients. The patient should be encouraged to bear up under pain. Cotton wool pads and air cushions will add much to the patient's comfort. He keeps patients on their backs for two weeks, and out of bed after three weeks. Shock is best met by the application of external heat, the use of strychnia, caffeine, digitalis, and whiskey hypodermically, and decoctions of coffee or beef-tea hypodermically. If much blood is lost, large amounts of fluid will be absorbed from the rectum. A saline solution may also be injected into the areolar tissue. Vomiting from ether cures itself. If it continues more than two days some other cause must be sought. If simple means fail the vomiting will be found due to peritonitis or impending obstruction of the bowels. In either case the bowels should be moved at all hazards. When fever occurs the bowels should be kept frequently open and the body sponged frequently with cool water. The use of antipyretics is of doubtful value. When to reopen the abdomen and when to resort to medical measures is a difficult problem. In general, when the skin is dry, the face flushed, and the pulse full and bounding, secondary operation will be unnecessary. When the skin is "leaky," the extremities cool, the pulse rapid, and feeble absorption of septic material is going on, an operation is indicated. Opium in any form is unnecessary. Occasionally, in typical cases of abdominal section, morphia is useful when a nervous patient becomes excited and cannot otherwise be controlled. Asthenia must be combated by the systematic use of nutritive enema with whiskey, together with the administration of such liquid food as the stomach will bear. Champagne can often be given with advantage when other stimulants are rejected. Less can be done by alimentation and medication after abdominal section, to combat asthenia, than af-

ter other operations, because as a rule the stomach is not available.

Suggestions as to Abdominal and Pelvic Surgery, was the subject of a paper by Dr. William H. Wathen, of Louisville, Ky. The doctor thought there was too much laparotomy done and too many men doing it. The appendages are sometimes removed for vague nervous troubles, where there is no disease of the ovaries or tubes, or peritoneal adhesions. Such cases are often made worse, and mutilated in a way which cannot be corrected. Many of our best operators are urging upon the profession that the operation be not done unless there is well-defined disease, which has resisted, or will resist, other more conservative means. As the experience of an honest surgeon widens, he operates relatively less frequently, and he can recall cases which he does not believe should have been operated upon at all. In preparing for an operation, the physical and mental condition, and the hygienic and sanitary surroundings of every patient, should be made as perfect as possible, as without absolute surgical cleanliness septic infection may result. The danger from the atmosphere is practically nil, and the spray unnecessary, which, if strong enough to kill pathogenic germs, will be positively poisonous. If the operator neglects details he will be disappointed in the results Operating table has plate glass cover, and instruments which are used are placed in porcelain-lined vessels. Operator and chief assistants take a bath and put on clean aprons reaching from neck to feet. Towels washed and boiled, sponges clean and well-shaped, and after being well boiled are made aseptic after the method of Greig Smith. Sponges once used may be again used if again made aseptic in the same manner. He uses Chinese hard twisted silk of three sizes and sterilized, so that a culture cannot be made from it. All instruments, towels, etc., are washed thoroughly and then sterilized an hour before the operation. The patient is given one or more hot baths before operation, and the vagina and rectum washed out, and the pubes shaven. Before making the abdominal incision, the abdomen is again washed with soap and water and wiped off with sulphuric ether. Dry towels covered with towels wrung out of hot water are placed over the abdomen. He uses no antiseptic solutions for the sponges and instruments, but keeps them in sterilized water as hot as can be borne. Adherent intestines should be separated if possible, otherwise the operation is not a success. He believes antiseptics cause adhesions, and does away with them. The drainage tube should be used if hemorrhage has not ceased, or if foreign matter which is possibly aseptic is admitted into the abdomen. A small tube will usually drain as well as a large one. He does not favor capillary drainage of the tubes, nor vaginal drainage.

Report of a Case in which a Child's Arm Became Engaged in the Fenestrum of the Obstetric Forceps, was the subject of Dr. Dan Millikin, of Hamilton, O. The patient had borne four dead children after severe and complicated labors, each time under the care of a different physician. She had also borne one child living, which probably owed its life to the fact that it was very small and was probably prematurely born. The forceps were carefully applied, easily locked, and never inclined to slip. The effort to deliver by forceps was much prolonged. When finally it was attempted to deliver by podalic version a condition of affairs was found which to the essayist was unique in obstetrical practice. The upper blade of the forceps—that one which passed to the right of the woman's pelvis—would not come away. The lower blade was withdrawn first, but still the other would not come. The hand passed into the uterus revealed the fact that the child's right hand had passed through the fenestrum of the blade, and that in fact the blade hung on the bend of the elbow as a basket hangs on one's arm. The blade could not have been withdrawn without internal manipulation. Presently, when the child had been withdrawn by the feet, it was shown that violence had been done the arm near the elbow. No bones were broken, but the soft parts considerably injured. Undoubtedly, if the instrument had been long and stiff and it had been thought proper to compress the head, the arm might have been chewed off. Endeavoring to draw some warning from such a sorry job, we may note first, that the accident could only occur during the supra-pubic application of the forceps. All the evolutions it must have made to attain this position require room, and must have been made above the brim. In the second place, the accident cannot possibly be diagnosed unless the head and arm are so large as to arouse suspicion on account of the amount of substance between the blades of the forceps. In this case he did not believe that the most expert obstetrician could detect the accident before the attempted withdrawal of the instrument. For this reason he is ready to inquire whether the fenestrum has any right to exist. What is it good, for anyway? It has been said that the fenestrum gives lightness to the forceps. This is at first glance very plausible, but admits of question. We cut out the fenestrum, but we thicken the remainder of the blades. What signifies this weight, anyhow? Ordinary instruments do not weigh more than a pound, and the brother who cannot carry a pair or two of this weight is not fit to be out at night alone, much less use the forceps. The fenestra, it is said, permit of the forceps getting a better hold on the head by the protuberances projecting through them. This is seldom the case. Forceps rightly chosen and rightly used make room instead of occupy space. The fenestra increase the total amount of edge surface, which is an objection. Fenestra should at least be abandoned in forceps for use above the brim.

The Electrical Treatment of Fibroid Tumors, with an analysis of forty-six cases, was the subject of a paper by Dr. G. Betton Massey, of Philadelphia. He considered the rise and progress of the Apostoli method, and spoke of the unparalleled fierceness of the opposition to it, which was however as healthy as it was fierce. He did not regret this rivalry, but did regret the intemperate statements of certain extreme opponents, in striking contrast to many electro-therapeutists who willingly concede to surgery cases unsuited to electrical treatment, yet demanding active help. The doctor's results were as follows; 5 cases of complete anatomical and symptomatic cure, the tumor disappearing and the patient restored to health; 23 where the tumor was considerably diminished in size, and all other symptoms were cured; 8 in which the tumors were not diminished in size, but all symptoms disappeared; 2 in which the tumors were not diminished, nor the symptoms relieved. One case was made worse by treatment; 7 were not taken account of because two were polypoid, and their delivery only assisted by the electricity; and 5 cases were treated for too short a period. This gives about ninety-two per cent. successes, and eight per cent. failures. Of the five cases of complete cures by absorption, all were intra-mural and treated by intra-uterine application. Of the 23 cases symptomatically cured and anatomically reduced, 15 were intra-mural; 4, subperitoneal; 3, intra-mural and subperitoneal, and 1 submucous. Of the cases symptomatically relieved without anatomical reduction, 6 were intra-mural, 1 intra-mural and subperitoneal, and 1 submucous. He punctures only in a few cases to which it seems adapted. The intra-uterine method is certainly the method of choice.

While an increasing familiarity with hysterectomy for fibroid tumors will doubtless render operators more expert in the work, and possibly lessen some further the mortality of the operation, accurate knowledge is yet wanting concerning the after-histories of the cases reported as successful, with special bearing on the relief of painful symptoms, or their increase, by the addition of post-operative incidents or accidents. A conservative method of treatment which apparently acts by inducing retrogressive changes in the morbid process, resulting in a complete anatomical cure in over twelve per cent. and a practical cure in seventy-four per cent. of all cases, deserves most

careful consideration from scientific men, since but few remedial measures from analogous diseases can lay claim to an equal measure of success. The electrical method of arresting, reducing, and dispersing fibroid tumors, besides being truly curative in transforming vitiated tissue action into natural absorptive processes, has the further merit of leaving intact all neighboring organs and functions yet existing, as the ovaries, etc, the current acting as a general revivifier of all highly organized parts and processes, while hastening the destruction of adventitious and lowly organized tissue.

Papers relating to this subject were read by Dr. Marie B. Werner, of Philadelphia; Dr. Thomas Opie, of Baltimore; while the operative side was discussed in papers by Dr. Joseph Price, of Philadelphia, and Dr. Joseph Eastman, of Indianapolis. The discussion was conducted by Drs. Skene, of Brooklyn; Baldy, of Philadelphia; Fry, of Washington; Martin, of Chicago; Mordecai Price, of Philadelphia; Florian Krug, of New York; and Joseph Hoffmann, of Philadelphia. The discussion was a very long and interesting one.

The CHAIRMAN said he wanted the subject "peeled to the bone." He called alternately on advocates of electrical and surgical treatment. The statements on both sides exhibited more of a spirit of fairness, with less reckless utterances, than former debates during the past few years. It would seem that the surgical brethren are perfecting their technique, so that they are having better success and fewer deaths, and that the electrical brethren are doing the same thing; that surgeons do not operate on every case, nor do electricians, and on the whole we are coming to a more sensible view of the whole matter.

The Relation of Displacements of the Abdominal Viscera to Pelvic Disease, was the subject of a paper read by DR. J. H. KELLOGG, of Battle Creek, Mich. The purpose of this paper was to show by the study and comparison of the measurements of a large number of civilized women including peasant women of the laboring classes, Chinese, American Indian, East Indian women, and ancient Greek models. The doctor found: 1. That the average adult civilized woman of modern times is deformed, her waist measurement being too small for the rest of her body. 2. That this deformity, and others associated with or growing out of it, are the results of an unnatural and unhealthy mode of dress, and the neglect of physical or muscular activity. 3. That the deformity of figure which the average woman presents is indicative of changes in the static relations of the abdominal and pelvic viscera which are the source of many and serious morbid conditions and painful symptoms. 4. That in the great majority of cases of pelvic diseases in women, especially cases of displacement of the pelvic viscera, the pelvic disease is not an isolated or independent malady, but only a partial or local expression of a more general disease which involves also the abdominal viscera in whole or in part. 5. That in consequence of constriction of the waist and weakening of the lower muscles of respiration, the civilized woman has acquired an unnatural mode of breathing which tends strongly in the direction of the development of disease of the abdominal and pelvic viscera. 6. That any therapeutic method addressed to the cure of maladies of this class, to be successful, must include such measures as will correct the disturbed static relations of the abdominal viscera as well as the displaced uterus and ovaries, and will remove the cause of these displacements by restoring the natural supports. The doctor then presented the following measurements of the waist:

East India women of Telgu, whose clothing constricts the waist	40.6
English laboring women, brickmakers, who wear tight bands and heavy skirts	41.3
Civilized men, American	43.3
French peasant women	45.4
Chinese women	45.4
Yuma Indian women of New Mexico	55.2
The Venus de Milo	47.6

It thus appears that the average natural woman has a larger waist than the natural man, which is not surprising, since she has a larger liver, and her waist must sometimes expand still more to meet physiological requirements.

Tracings of the outlines of women were shown by the doctor. First was that of a healthy woman. The characteristics were a strong anterior dorsal curve, hips well set back, chest prominent, abdominal muscles well drawn up, head erect, and body well balanced upon the balls of the feet. In contrast to this was shown the unhealthy woman, who spends her time going from one gynecologist to another. Characteristics: hips forward, spine straight, abdomen pendulous, chest flat, shoulders drooping, chin projecting, body balanced upon the heels, and a weak and relaxed condition of the whole figure. In this case the stomach, bowels, kidney, and right liver were each several inches below their proper position. These constrictions of the waist cause unsightly protrusions of the lower abdomen. The doctor has made pneumographic studies of the breathing of several hundred women, including civilized, Indian, and Chinese women of various conditions. He finds women who have not been deformed breathe as do men. Chinese women and Indian women breathe as do men. A female dog breathes just as does a male dog. A man in a corset breathes as does a woman. A male dog in a corset breathes as does a woman in a corset. Hence the female type of respiration is pathological, not physiological.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON SURGERY.

Stated Meeting, April 13, 1891.

WILLIAM T. BULL, M.D., CHAIRMAN.

Artery Forceps.—DR. A. M. PHELPS exhibited a modified artery forceps for operating in deep cavities and in tissues which were very much indurated.

Nephrotomy.—DR ROBERT ABBE presented a man on whom he had performed nephrotomy five weeks ago for symptoms of renal colic and hemorrhage coming down from the right ureter, as demonstrated by the cystoscope. These symptoms had lasted some years. The incision into the kidney revealed nothing, but at the pelvis a portion of the tissue felt gritty, and was scraped. The hæmaturia ceased within four days after the operation. The patient had no more pain, and had so far remained well.

DR. WEIR remarked that the Germans had recognized such cases; in some there had been found a slight irregularity of some nature, in others none, and they had called them cases of hæmophilia of the kidney.

Treatment of Hernia in Children by Means of the Hank Truss.—DR. S. E. MILLIKEN read a brief paper, descriptive of this method, and presented a number of children so treated (see p. 616).

DR. ABBE said he had some years ago been struck by the simplicity of this method of treatment, but had not succeeded so well as the reader. He was disposed now to try it again.

DR. DE GARMO sent a written communication, in which he deprecated a return to the crude means of the past for the treatment of hernia, which ought to receive the best management before the curative age had been passed. The hank truss might do in country practice, until time could be had for obtaining the rubber or celluloid truss, and while it might alone effect a cure, yet there were many cases in which it failed until the curative age had passed, as was shown in a number of patients thus treated at a certain institution in the city, who had finally wandered to his own clinic, perhaps too late for a radical cure. Nine-tenths of all hernias in children under five could be cured by a proper truss, but they must be kept under observation until the cure was complete.

The Curative Effect of Operations per Se.—DR. J. WILLIAM WHITE, of Philadelphia, read the paper by in-

vitation. It contained histories of a large number of cases reported in the journals and to him by letter, in which a surgical operation had been performed, nothing found or removed, yet the patients had been cured. He was led to study the subject by his experience with trephining for so called traumatic epilepsy, and finding nothing, the patients were still cured or much improved.

Classifying the cases roughly, they could be divided into three groups, according to the anatomical seat of the symptoms or supposed disease: 1, Operations for the relief of nervous phenomena, as epilepsy, insanity, paralysis; 2, operations for abdominal or pelvic troubles; 3, other cases.

He had time to read only a portion of the facts which he had collected on these three classes of cases. Regarding traumatic epilepsy, during the past five years he and Dr. D. Hayes Agnew had trephined in fifteen cases. Notwithstanding that in nine cases nothing abnormal was seen, all were immediately improved. In two there was no return of symptoms during the eighteen months and two years the patients remained under observation. Of fifty-six cases which he had collected of trephining for epilepsy in which nothing was found, thirty-five were reported as cured. There were some cases of cure of epilepsy following castration, stretching of the sciatic nerve, ocular tenotomy, etc. Professor H. C. Wood, having noticed epileptic attacks in a cat cease after a fall on the head from a height, had cured other domestic animals of epileptic attacks by striking them on the back of the head. The author had seen such benefit in epilepsy follow excision of scars in four cases, that he had thought it might be well to try simple excision of scalp cicatrices with the hope of effecting relief, if not a cure. He related a case in his own practice in illustration of cure of paralysis in some cases following operations upon the vertebral column, in which nothing abnormal was apparent.

The abdominal cases included a number of tumors, not excepting some said to have been of a malignant nature. The cure of tubercular peritonitis by abdominal incision was too familiar to justify reading his statistics on that subject. Briefly, he had collected one hundred and thirty-one cases treated in this way, with eighty-four cures, some improved. There was only one fact common to all, namely, that the abdomen had been freely opened, and a certain amount of intra-abdominal manipulation had been practised. In the majority of the cures no antibacterial agents had been employed within the abdomen.

The laparotomy cases included a number in which symptoms of renal calculi had disappeared, although no stone had been found in the kidney. Among the miscellaneous cases were several of cure of osteomalacia. He thought that a number of cures of different affections following ocular tenotomies were due to the operation per se rather than to correction of imperfect balance of the muscles. This was probably true also of some other operations, as circumcision in forms of paralysis, etc.

In attempting to explain these phenomena he had tried to formulate the conditions present in all or nearly all the cases. 1. Anæsthesia. 2. Psychical influence, or so-called mental impression. 3. Relief of tension. 4. Reflex action, or reaction of traumatism. These influences were operative in the majority of the cases

To test the value of an anæsthetic as a cure of epilepsy, he had tried the administration of ether simply, in a number of cases, but it had had little or no effect on either the severity or frequency of the epileptic convulsions.

Regarding psychical influence, if these cases had had hysteria, the cure could be understood, but only a small proportion of them were of that character. The epileptics were general epileptics; the tumors were palpable, visible, or both; the tubercular growths were verified. It might be assumed, then, that in at least two-thirds of the cases the symptoms were either associated with organic disease or with unmistakable evidence of organic disease. Was it possible for psychical influences to so change nutrition, or other conditions, as to lead to a cure of pathological states? He thought that a generally affirmative answer could be given. History was quoted to prove it. It must be admitted, however, that in his historical cases pain, and the personal equasion, were marked. It seemed only reasonable that emotional influences could influence morbid as well as physiological processes. Admitting the potency for cure of psychical influences, he said they were at present beyond our control, although they might become capable of future scientific employment. He then passed to the consideration of the possible effect of relieving of extreme tension, especially in abdominal cases.

Under reflex action he included traumatism, cauterization, etc.; it must be admitted that there was much of the reciprocal influence of one organ of the body upon others which we did not yet understand.

It seemed, then, that the anæsthetic had the least to do with effecting a cure in the cases under consideration; and that psychical influence, relief of tension, and reflex influence from traumatism had varying degrees of effect in different cases. The theory of accident or coincidence scarcely explained the facts.

Dr. Abbe thought that most of the tumor or tubercular cases of the abdomen owed their cure to the influence of irritation from manipulation. A number of other cases were to be accounted for on hysterical or psychical ground; perhaps some on bacteriological ground. He thought there could only be few cases in which the surgeon would be justified in undertaking an operation simply for the curative effects of the procedure, without removal of something visible.

Dr. Syms thought it was a little peculiar that twenty-five per cent. of cases of tuberculosis of the peritoneum should be cured by laparotomy, when opening of joints would not cure tubercular trouble there.

Dr. H. J. Boldt had been startled, as he supposed all had been, by the array of statistics brought forward by the author, but he thought we could not be too careful in accepting the statement that in a given case the cure was due to the operation per se. He did not believe that cases of malignant disease within the abdomen had been cured in this manner, although he had had two or more cases apparently of this kind himself. Doubtless there had been a mistake in diagnosis or other facts.

Dr. Thomas H. Manley said there was no doubt in his mind of there being a direct and positive connection between the mental and physical processes of life, between the psychical and the nutritive. He related the case of a girl, a sufferer from marked epilepsy, who ceased to have attacks following a fall over a rocking-chair.

Dr. B. F. Curtis expressed scepticism as to the diagnosis in at least many cases, especially those of malignant tumor within the abdomen.

Dr. R. F. Weir remarked that most of the cases which had been reported were peculiar cases, out of the way cases; therefore it was too much to assume at once that the cure was due to the operation per se. He had never seen tumors of the leg disappear in this manner. Why should they disappear when in the abdomen? There must be something peculiar in the make-up of the abdomen. This he admitted, there was the great sympathetic system, for instance. Here might be one explanation, yet an obscure one. The cases might be explained in the future on better ground than simply to say the cure was due to the operation per se.

Dr. J. D. Bryant rose to express gratification at hearing so exhaustive a paper, and mentioned a case of epilepsy cured by trephining, although nothing abnormal was found.

The author said a better title for his paper would have been, the possible curative effect of an operation per se.

The harvest for the young medical man is when the dispensaries close for the summer.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

THE PENDING DECISION AS TO THE RECONSTRUCTION OF THE UNIVERSITY OF LONDON—THE ANNUAL CONVERSAZIONE AT THE MEDICAL SOCIETY—SIR JOSEPH LISTER ON THE PRACTICAL ASPECTS OF THE COAGULATION OF THE BLOOD.

LONDON, May 9, 1891.

THE foremost subject of interest just now in medical circles is the question of the reconstruction of the University of London. At present that institution is unique as compared with the other universities of this country. It is in no sense a local university for London, as its name would imply, but is virtually an Imperial Examining Board which admits to its examinations candidates from all parts. There is, in fact, no restriction whatever as to residence and courses of study imposed in the faculties of arts, science, law, and music; candidates for degrees in these faculties may enter for the examinations whether they have studied at a college or not, and if successful at the examinations obtain their degrees. In medicine there is some limitation as to places of study, and certain courses of instruction have to be attended; but even in the medical faculty the degrees are not confined to London students, but may be obtained by provincial—and even foreign—students who have complied with the not very exacting conditions as to their courses of study. The degrees of the University have for some years past been open to women. No teaching is undertaken by the University, nor does it promote or endow research. It is purely an examining board, and the reputation of its degrees has been gained solely by the severity of its examinations. Its pass degrees, in fact, are admitted to be equal to the honors examinations of the other universities. London medical students, however, are placed at a grave disadvantage by this arrangement, excellent as it may be in some respects. No other British university admits to its degrees candidates who have not studied in one of its colleges. (Two universities admit candidates of mature age and long professional standing to their M.D. examinations.) A London medical student must consequently either graduate at the University of London or go without a degree. Only about ten per cent. of London medical students do obtain the London degree. In Scotland or the provinces—where there are local universities—a medical degree can be obtained on much easier terms, and the proportion of graduates to students is much higher. It has long been felt that in the matter of degrees London students are placed at an unjust disadvantage, and some few years ago a movement was inaugurated for the establishment of a new university in London which should combine the functions of teaching and examination. Stimulated from without, a movement began within the University for its reform, and several schemes were propounded in succession, only to be rejected by the various bodies whom it was hoped to conciliate. The latest scheme is to be submitted to the graduates on Tuesday next. It is in the nature of a compromise, but has been more favorably received by the various colleges than its predecessors, and the Senate regard it so hopefully that they have drawn up a draft charter embodying it. This charter will be presented to the graduates assembled in convocation, for their acceptance or rejection. They have the right to veto it, and between ten and eleven hundred graduates have already intimated their disapproval of it. Its fate is therefore doubtful. If carried, it will probably be only in consequence of the influence of the Senate and of the various teaching colleges interested. If rejected, we shall probably hear no more of the reconstruction of the existing University, but of the establishment of a new one for the metropolis on the lines of the older universities.

The Annual Conversazione of the Medical Society of London took place on Monday evening last. As usual on similar occasions science and amusement were pleasantly blended. The scientific part of the programme was the delivery of the Annual Oration by Sir Joseph Lister, who selected for his subject "The Coagulation of the Blood in its Practical Aspects." Thirty years ago, he said, Schmidt had come to the conclusion that fibrin did not exist as such in the blood, but that it was composed of two albuminoid bodies, viz., one in the liquor sanguinis (fibrinogen), and one derived from the corpuscles (fibrinoplastin). Many attempts had been made to ascertain the precise nature and mutual relations of the constituents of fibrin, and these investigations had somewhat overshadowed the question, which was more interesting to practitioners, viz., as to what were the circumstances which determined the mutual reaction of these two substances and the conditions under which the corpuscles parted with their fibrin-forming element to unite with the element in the liquor sanguinis. There was a wide difference in their relations toward the blood between the walls of the living vessels and ordinary solid matter. Drucke had concluded—as Sir Astley Cooper did before him—that this difference consisted in an active influence of the living vessels upon the blood, preventing it from coagulating. Sir Joseph said his own investigations had, on the other hand, led him to believe that the vessels were passive.

It had been objected to Schmidt's conclusions that hydrocele fluid and the allied effusions with which he operated were not strictly comparable to the liquor sanguinis in that they were transudations, and that the liquid had become altered in the process of transudation. Sir Joseph Lister then described an experiment which he had himself performed. In mammalia, he remarked, the blood soon coagulated after death in the larger vessels, but remained fluid in the secondary vessels for an indefinite period. Having removed a portion of the jugular vein of a horse, with the contained blood between two ligatures, he had suspended it in a vertical position. In the blood of a horse the red corpuscles behaved in a different manner to those of human blood or that of the ox. They fell rapidly and left the upper part of the blood relatively free from corpuscles. On puncturing the vein over the clear fluid the latter was found to be very slow in coagulating, and had only commenced to clot in about three-quarters of an hour; but a little of this fluid to which a small portion of coagulated blood was added clotted rapidly. Microscopical examination showed what was the cause of the coagulation, viz., the presence of some red corpuscles and of numerous white ones. If the corpuscles could have been absolutely separated there would have been no clotting, and yet the plasma had not been changed by transudation. Sir Joseph said it seemed to him evident that Schmidt's conclusions were essentially right. He then described an experiment which he had performed, and which consisted in passing some blood from an excised jugular vein (from an ox) into a glass tube with the least possible disturbance. After ten hours the blood was still fluid, with the exception of a crust of clot lining the wall of the vessel, and he thought this was evidence that the blood has not a spontaneous tendency to coagulate even when not kept in check by any action on the part of the living vessels. This conclusion had since been confirmed by more than one observer, and notably by Benjamin Haycroft, who had found that if blood were dropped into a deep jar of castor-oil, and the drop kept from coming into contact with the walls of the jar it remained fluid. This experiment was even more satisfactory than his own, inasmuch as no coagulation at all occurred. It had also been shown that neutral gases—such as oxygen and nitrogen—were incapable of inducing coagulation, and Mr. Haycroft's experiments showed that this was the same with chemically indifferent fluids. In its relation to the coagulation of the healthy blood the wall of the healthy blood-vessel resembled the particles of an indifferent fluid;

when, however, the living tissue was damaged and its vitality impaired, it then behaved like an ordinary solid. This was the case not only when the vessel was wounded, but also when it was subjected to some influence calculated to impair or suspend its vital activity.

He had come to the conclusion that the undisturbed coagulum resembled living tissue in relation to coagulation, viz., that it did not induce coagulation in its vicinity. In an amputated limb we found clot where the veins were wounded by the knife, but not elsewhere. Yet in his experiment with blood contained in the jugular vein of a horse the clot did propagate itself so that at the end of two days what had been merely a crust had become a thick clot, though there still remained in the middle a small quantity of liquid uncoagulated blood. He thought at the time that this extension of clotting was due to some imperfection in the manner of performing the experiment, but he was now inclined to think that the fact admitted of another explanation. Schmidt had found that the fibrino-plastic substance derived from the corpuscles was vastly in excess of what was required to induce coagulation. This was illustrated by the fact that the serum which was expressed from the clot would set up coagulation if added to hydrocele fluid. This being so, and seeing that ordinary blood-clot was continually shrinking and squeezing out serum containing the fibrino-plastic substance, it could readily be understood how in such an experiment the clot first formed squeezed out serum which combined with the fibrinogen to form fibrin. Under such circumstances it was easy to understand why the clot should extend, but why should it not do so in the living body? Why did the clot not spread from the injured vein after phlebotomy? He thought this must be explained by a fact to which he had already alluded before the Society, viz., that on letting blood from a horse, with antiseptic precautions, into a flask which had become superheated to destroy any micro-organisms, although the blood coagulated in the flask yet the clot did not shrink, and there was not a drop of free serum, although the preparation was kept for many days. It seemed inconceivable that this should be due to the destruction of the micro-organisms, but the same result followed the letting of blood into a jar which had been purified by a strong solution of corrosive sublimate. The same effect obtained by two such different means certainly seemed to point in the direction of the organisms having something to do with it. This explanation accounted, at any rate, for the extension not taking place in the body. It meant that the clot formed in the body did not shrink, and so the serum was not squeezed out to set up coagulation in the adjacent blood. This might not be the correct explanation, but it was a possible one. This immunity from extension, however, only applied to the uninjured blood-clot. In a traumatic aneurism the constant pressure of the blood on the clot caused it to extend. When an artery was tied in its continuity the clot was usually firm enough on the proximal side where the heart-beat disturbed it, while on the distal side it was apt to be very imperfect. This was further borne out by the fact that secondary hemorrhage was far more frequent on the distal side. The same thing was observable in venous aneurism, the pressure of the blood leading to the formation of sufficient clot to organize.

The orator said that while he did not believe that the living vessels possessed any influence to prevent the coagulation of the blood, it was evident that there must be this inhibitory power somewhere, for otherwise coagulation would inevitably follow transfusion. He presumed that this inhibitory power resided in the capillaries. We could not otherwise say why the blood did not coagulate in the frog's capillaries when congestion and exudation were induced. The capillaries must possess the power of preventing or inhibiting this action of the fibrino-plastic substance, which was certainly present under these conditions.

IS THE CONTAGION OF TYPHUS ALWAYS IMPORTED?

To the Editor of the Medical Record.

Sir: My apology for this paper is that others like myself sometimes meet with a fever which does not present the characteristic symptoms of our well-described fevers, unless typhoid fever is in these cases returning to the typhus type, and to essay to do away with the common impression that the germ of typhus fever is always imported.

There was editorially noticed in the Medical Record, April 18, 1891, a death from typhus in the New York Hospital, in the person of a poor Hungarian, who had only been in America two months, and the journal stated that he doubtless brought the infection from Hamburg. If this case of typhus was contracted in Hamburg, then the period of incubation was much longer than I have seen a record of.

In the latest edition of "Flint's Practice" is the following: "In 1841 I reported four cases of typhus developed in the Erie County Almshouse. They occurred during the winter months. The wards in this institution were quite small and crowded, and for the sake of warmth fireplaces, which had previously been used, had been bricked up and close stoves substituted. There was an abundant eruption in all these cases, and an examination after death in the only case which proved fatal showed the absence of the typhoid lesions."

In these cases overcrowding and want of ventilation seemed to be important elements in causation. No cases of typhus occurred out of the Almshouse, and the disease was not imported.

Various names are presumably given to this disease in America, such as anomalous fever, mild typhoid, bastard typhoid, typho-malarial, septic, or nosocomial malarial, and innominate. Are not these but roses by other names? Why may not the germ or germs of typhus also originate in America, where, at times, there are three millions of paupers, and why may the germ not continue to originate? We have the same conditions in many of our large cities, villages, and at other points which obtain in those great endemic centres, Ireland, Italy, and Russia. The pent up air of a ship or jail is not worse than the air in a sleeping- or work-room, 12 × 12, with windows down, doors closed, containing six people, some of them menstruating, and a closed stove. Yet in cold weather, in certain places in our country, this condition of herding can be seen, coupled with a lack of variety in food.

I have seen no record that typhus has appeared in the Mississippi Valley and the States bordering on the Pacific Ocean, neither is it indigenous to such countries as Australia and New Zealand. Why? Because there are no considerable cities in the Mississippi Valley north of latitude 40° in which there is much poverty and squalor, and the climate inspires to labor. The climate of the Pacific coast and the general wealth of its people does not compel them to use closed stoves for seven months in the year, to overcrowding, and their diet is most varied.

In Australia and New Zealand the people must avail themselves of fresh air, and so in all tropical, subtropical, and southern climates. Besides, they have in their fresh fruits a prophylaxis against typhus and such like fevers.

Undoubtedly the lack of proper food and of pure air are two of the factors in the causation of typhus, poverty and cold weather are auxiliaries.

Our native typhus is milder than the imported, for the reason that blood filled with the extracts from good food, and kept warm, is more resisting than blood filled with the waste products of potatoes, polenta, and potato whiskey, and exposed to cold. It is not so contagious. The eruption in our typhus may be frequently absent, but it may be present in the axillæ, or so sparsely scattered over the extremities as to be overlooked. Typhus is allied to scurvy, hence we should not expect much eruption in a case of typhus in a well-fed American, and with attention to ventilation and isolation, we should expect him to re-

cover. Neither does the temperature range so high for the same reason, but the rapid pulse and rapid respiration is similar to the foreign typhus.

In illustration I will report fifty-two cases of a fever which had so many points of resemblance to typhus that I ventured to call it typhus. I very much regret that no autopsies were made, which might have definitely settled the question, but not necessarily.

In the last week of July, 1880, my partner, Dr. F. T. Fry, and myself commenced to attend some fever patients at Quinnimont, W. Va., which was a mining and manufacturing town in the mountains, on the C. & O. R. R., with a population of about three hundred. Quinnimont comprised three villages; one was at the depot, one three-quarters of a mile from the depot and nearly on the same level, and one was situated upon a high mountain, about fifteen hundred feet above tide-water, two miles and a half from the depot. The disease commenced in the mountain village, in the person of an Irishman, aged twenty-five.

He had been living in the village several years, and seldom left it.

His condition on the morning of the sixth day of his illness was as follows: Temperature, 103° F.; pulse, 108; respiration, 36, and his clinical history for the most part was the same as the clinical histories of the majority of the cases. No abdominal symptoms of typhoid fever, either internal or external; face congested; sweats some; tongue coated in the middle, red at the tip and edges; muscular tremor; some delirium in the evenings; hair did not fall, nor were the finger-nails much affected during convalescence. The access was sudden; the patients were seized with a chill, followed by moderate fever, headache, pains in the back and extremities, and great weakness.

I will now detail a circumstance which may bias my ingenious reader as to causation.

Soon after the Irishman fell ill a public school for white children, within a short distance of the Irishman's house, and on the edge of a graveyard, was broken up by the fever, the teacher, a young man, and many of the scholars suddenly becoming ill. Within a few feet of this school-house a negro man had been buried on July 1, 1880, and in investigating the epidemic I saw common house-flies (not the blue fly, the scavenger *par excellence* of decomposition) on his grave early in the morning, when the temperature was probably below 50° F. It was disagreeably cold; but upon putting my nose near the mound I could not detect any odor; but gas may have been present. This man had died from a gun-shot wound of the abdomen, and we had held an autopsy. He was buried in a defective coffin, and probably in a too shallow grave.

This circumstance might suggest the Oriental plague, to which typhus has analogies—the peculiar burial of the Copts is alleged to be the sole cause of the plague.

But after much study I could not satisfy myself with any theory as to causation or spread of the epidemic. There was no common source of water or milk supply, and no sewers. These people were crowded in small and filthy cabins, the miners sleeping upon bunks, the bunks in tiers; the little windows and the doors were closed at night to keep the cold air out. The white portion of the population were first affected, and the disease lasted a month, sparing no ages except probably the extremes. The average time in bed was a week.

Of the 52 cases 23 were white females, 15 colored males, 8 white males, 6 colored females. The reason why so many white females were affected was because the majority of them were crowded in two small boarding-houses.

The highest rate of pulse in each of 23 cases was 120 and above, and in 3 cases it was 144. One of the latter, a male negro, died. The lowest rate was 84. The highest temperature was, in 1 case, 104° F., and in 4 cases not quite 104° F; the lowest, 97.5° F., reduced by perspiration. The respiration in 5 cases was 48, the average rate, 36. Eight cases had epistaxis once or oftener, 1 nearly dying from this cause. One case had a profuse hemorrhage from the bowels. Three cases had slight diarrhœa, but constipation generally existed. The tongues of all were coated, and red at the tip and edges; some were moist and coated whitish, others yellowish; some, in the latter days, were dry and fissured; oral catarrh, including scorbutic gums, existed in some, and also glossitis. One case, a young lady, had petechiæ upon abdomen, 2 cases sudamina, and 1 had retention of urine after he had been sick a few days. In 1 case there was a relapse.

There were a few cases in the other villages, but almost without exception these persons had contracted the disease in the mountain village. There were 2 deaths: 1, a Scotch girl, about ten years of age, and 1, a young negro man, who became delirious before death. Both died in the mountain village.

Treatment: Ventilation, diet, mineral acids, and especially phosphoric, with tonic doses of quinine and stimulants.

We should have said above, in confirmation of our opinion, that Niemeyer wrote that "small epidemics of exanthematic typhus are occasionally seen almost everywhere; and may usually, but not always, be traced to contagion." And if such is the case with the exanthematic form, why may it not be with the American form, which often is devoid of the exanthem?

T. R. Evans, M.D.

Loudon County, Va.

Army News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from May 17, 1891, to May 23, 1891.

Skinner, John O., Captain and Assistant Surgeon, Fort Davis, Tex. Will proceed at once to Fort Clark, Tex., and report to the commanding officer for temporary duty. S. O. 44, par. 4, Department of Texas, May 13, 1891.

McCreery, George, Captain and Assistant Surgeon. By direction of the Secretary of War, is relieved from duty at Fort Clark, Tex., and will report in person to the commanding officer at Fort McIntosh, Tex., for duty at that post. S. O. 114, par. 4, A. G. O., Washington, D. C., May 19, 1891.

Banister, William B., Captain and Assistant Surgeon. Assigned to duty as Medical Officer with Troop B, Sixth Cavalry, while en route from Fort Myer, Va., to Fort Washakie, Wyo. On arrival of the troop at its destination, Captain Banister will return to his station at Washington Barracks. S. O. 104, par. 3, Division of the Atlantic, May 20, 1891.

Woods, Marshall W., Captain and Assistant Surgeon. Granted leave of absence for one month, to commence on or about the 23d instant. S. O. 104, par. 1, Division of the Atlantic, May 20, 1891.

Lippitt, William F., Jr., First Lieutenant and Assistant Surgeon. By direction of the Secretary of War, will report in person for duty to the commanding officer at Fort McPherson, Ga. S. O. 115, par. 7, A. G. O., Washington, D. C., May 20, 1891.

Brooke, Benjamin, First Lieutenant and Assistant Surgeon. By direction of the Secretary of War, will report in person for duty to the commanding officer at Fort Riley, Kans. S. O. 115, par. 7, A. G. O., Washington, D. C., May 20, 1891.

Ireland, Merritte W., First Lieutenant and Assistant Surgeon. By direction of the Secretary of War, will proceed from Columbus City, Ind., to Jefferson Barracks, Mo., and report in person for duty to the commanding officer of that post. S. O. 115, par. 7, A. G. O., Washington, D. C., May 20, 1891.

Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 39, No. 23.
Whole No. 1074.

NEW YORK, JUNE 6, 1891.

$5.00 Per Annum.
Single Copies, 10c.

Original Articles.

IS EMBRYOTOMY OF THE LIVING FŒTUS JUSTIFIABLE?[1]

BY EGBERT H. GRANDIN, M.D.,

CHAIRMAN OF THE SECTION ON OBSTETRICS AND GYNECOLOGY, NEW YORK ACADEMY OF MEDICINE, ETC.

OF all the problems in obstetrics, the one propounded to-night is the most vexed, and the most important as well in the light of the marvellous progress of abdominal surgery during the past decade. Every physician whose practice necessitates attendance on woman during the supremest of her trials, when confronted by the necessity of destroying the lesser human life in order to succor the greater, must have felt instinctive repugnance; and every physician will hail with joy the advent of the day when the call for fœticide no longer exists, in that, through resort to the Cæsarean section the babe may be saved, and yet the mother not imperilled.

Ten years ago the answer to our question was necessarily affirmative. The maternal mortality from the Cæsarean section at that time was about forty per cent., on an average, hence absolutely no regard could be paid to the life of the fœtus. To subject the mother in those days to the Cæsarean section, except under stringent absolute indication, meant death to her, and with no certainty of saving the child. Ten years ago cleanliness, to say nothing of antisepsis, was an almost unknown quantity in obstetrics; the proper method of suturing the uterine wound to guard against gaping and internal hemorrhage was as yet only on the verge of evolution; the peritoneal cavity, if not a *terra incognita*, was with the vast majority of men a *nolle me tangere*; septicæmia was rife in our maternity hospitals. What wonder, then, that embryotomy was a beneficent necessity, and the Cæsarean section, particularly a successful one, was a *rara avis*. To-day our knowledge and our results are very different. Septicæmia during the puerperal state means simply faulty technique in the conduct of labor. The mortality from this cause has fallen as low as one-quarter of one per cent. in our New York maternities. To-day we know how to effectively suture the uterine wound; to-day we do not fear entering the peritoneal cavity, saving many a life which formerly was doomed. The abdominal surgeon is prepared with his statistics of series after series of laparotomies, complicated and uncomplicated, with, in individual instances, a mortality of from one to five per cent. Enormous fibroids of the uterus are removed without an untoward after-symptom—an operation, let it be remembered, for the removal of a tumor which of itself rarely kills and retrogrades at the menopause. In the face of all this, the time is certainly ripe for frequent discussion of this question of embryotomy. We may not solve our problem just yet in the desired direction, but, if I mistake not the signs of the times, the absolute certainty in the near future is that the physician will not be justified in sacrificing the living child because the maternal chances from the Cæsarean section are unfavorable. Modern methods of asepsis, and modern methods of operative procedure, are yielding results which will shortly prove that the only risk to which the Cæsarean section subjects the mother is shock. This factor, it must be granted, is associated to an equal degree with any and all of the methods which are at our disposal for the sacrifice of the child.

Aside from the operator himself, there are certain factors which militate against the relegation of embryotomy to its proper sphere—instances where the fœtus is dead.

One factor, and a prominent one, is the lack of thorough education in obstetrics. Midwifery must be raised to a higher plane than it has as yet secured. While the art can never become a specialty, greater stress should be laid on its practice in our medical schools. The student should be told that in no given case can it be predicated that nature will be equal to her task. He should be told to make it his rule in practice to examine every woman he is engaged to confine, in order to determine the configuration of her pelvis, and in order to estimate the probable size of the fœtus which must pass through this pelvis. Pelvimetry has with us been too much neglected, with the result that over and over again the forceps and version are resorted to in instances where accurate pelvic measurement would teach that both are contra-indicated, from the side of the child as well as from that of the mother. The result of faulty methods of instruction, the result of blind obstetrical practice, have been most disastrous in our statistical data. Not alone have children been sacrificed, but women also, in instances where a sounder scientific training would have taught that the Cæsarean section carried with it no greater risk to the mother, and offered hope of saving the life of the child. We must learn, then, to deliberately *elect* the Cæsarean section. This accomplished, we will cease mutilating children, a procedure which everyone who has been called upon to perform, will admit is repugnant to his very nature.

I will not dwell at length on the moral side of this question of embryotomy. Theologians cannot decide it for obstetricians. "If you cannot extract the child without killing it, it is murder to kill it," is the edict of the Church, easy to pronounce by those who are never called upon either to extract or to kill; but it is an edict which could carry absolutely no weight with the obstetrician so long as the alternative of not killing the child was the death of the mother. We must view this question purely from a scientific standpoint, and criticise it in the light of established scientific facts. Such at least is the state of the question as far as the physician is concerned. With the laity the question is a very different one. If the solution of our query is to be left in the future, as it has been largely in the past, to the relatives of the fœtus the fate of which is at stake, embryotomy of the living fœtus will always remain a justifiable procedure. The layman does not care for scientific facts, and throws statistical data to the wind where there is a choice between embryotomy and the Cæsarean section. He will insist to-day, even as he always has, on the sacrifice of the child rather than that the woman should be subjected to an operation which in the popular mind carries with it almost certain death. As for the woman, it will be rare indeed that the maternal instinct is strong enough to enable her deliberately to select the Cæsarean section in order that her unborn babe may have a chance of life. The point, then, which we as physicians will have to face sooner or later, is: Should the laity have any voice in the decision whatsoever? As physicians, we are not to weigh the relative value of one life over the other. We are called upon simply to do our best by the two lives committed to our charge, and if we can once deliberately conclude that the Cæsarean section carries with it but slight, if any greater, risk to

[1] Read before the New York Academy of Medicine, April 16, 1891.

the woman than does embryotomy, then it becomes at once our duty to elect the operation. Let me state distinctly what I mean by the term *elective* Cæsarean section. To take a concrete case: I am asked to attend a woman in her approaching confinement. I find on inquiry and examination that she is within a few weeks of term. External pelvimetry teaches me that her pelvis lacks the normal configuration. Internal pelvimetry shows shortening of an inch and a half to two inches in all the diameters, or possibly only in the true conjugate. By means of external abdominal and combined abdomino-vaginal examination, I determine that the fœtus is probably of average size. Attempts at causing the presenting part to engage in the brim of the pelvis by means of downward pressure on the uterus suggest to me that this presenting part cannot readily enter the pelvic canal. I feel, therefore, that the chances are against the birth of a living child, either through the efforts of nature or resort to forceps or version. I at once begin to prepare the patient for Cæsarean section, even as I would were the intended operation an ovariotomy. I clean out the intestinal canal; by means of daily baths I obtain ample function of the sweat-glands; I have the room where the operation is to be performed thoroughly cleaned; I select the day and hour for the operation, placing it as near full term as is possible; about six hours before the operation I induce labor by one or another of the recognized methods, operating therefore under the best obtainable conditions. This woman's chances of recovery, it seems to me, are absolute, barring that bugbear of all surgery—shock.

In this suppositious case, I have selected, it will be noticed, an instance of slight pelvic deformity; and further, the pregnancy has already advanced too far for anything to be gained by the induction of premature labor. I take it for granted that all will accept the Cæsarean section under the absolute indication, that is to say, where the true conjugate measures less than two and one-half inches; I further concede that where the case is seen early enough, the induction of premature labor should always be elected. Now, in this same case, can I or will I elect to perform embryotomy? No, but having first given nature a chance, I will resort to the forceps or version, or to both; and finally, these failing, perform what may turn out to be a very difficult craniotomy. The already exhausted woman is subjected to the further exhaustion which is associated with a protracted embryotomy; further, she is subjected to the risk of deep cervical rupture with profuse hemorrhage; further still, there is risk of uterine rupture, to say nothing of fistulæ or deep laceration of the pelvic muscles and fascia, which form wide avenues for the entrance of the pathogenic germ. Is the woman's chance of recovery as great as if I had deliberately elected the Cæsarean section? These companion pictures are from life. I have seen deeper shock after embryotomy than after the Cæsarean section; I have met with profuse hemorrhage after craniotomy; I have yet to witness sepsis after either, and I have yet to lose a case from cause directly traceable to the operation after either. But my experience with both operations has caused me to waver somewhat from my early training, and has led me to formulate for myself the following rule of practice, in which I believe the results in the next few years will justify me: In hospital practice I shall urge, and where possible perform, the elective Cæsarean section in suitable instances under the relative as well as the absolute indication: In private and consulting practice, I shall urge the section under similar indication, although I know that, for the present certainly, the advice will rarely be accepted. And why? Because of that fallible test upon which we are all too prone to ultimately rest—statistics.

I have hitherto absolutely ignored the statistical data at my disposal, for the reason that they give no fair estimate of the results obtainable after the elective Cæsarean section. If we take the statistics as collected by Harris, of Philadelphia, we find that the improved Cæsarean operation has saved nearly seventy-six per cent. of the women, and nearly ninety-four per cent. of the children. The fallacy of these data as giving us a clue to the obtainable results from the operation I have pleaded for, is the fact that we do not know in how many of the instances the operation was deliberately elected. If the cases were thus sifted I question if the maternal mortality might not be lowered beyond ten per cent. I so judge from the records of individual operators. There are German operators whose mortality is as low as six per cent.; Hertsch has recorded seven cases with no deaths; Cameron, of Glasgow, ten cases with one death; at the New York Maternity Hospital the record for the past two years is four cases, all successful both as regards the mothers and children. In the same hospital, during this period, there have been performed four craniotomies with one death, and in another case the shock was so extreme for hours that the patient only rallied after resort to transfusion. On the other hand, the mortality after embryotomy in the European maternities has varied from five and one-half per cent. to forty-five per cent., according to the degree of pelvic contraction in the presence of which the operation has been performed. Obviously, the maternal mortality after embryotomy cannot fairly be juxtaposed to that after the elective Cæsarean section, for the very reason that, except in extreme degrees of pelvic contraction, destruction of the living fœtus will always remain, so long as it exists as a justifiable measure, a matter of last resort. The point I desire, however, chiefly to emphasize is, that the statistical data at present at our disposal give us absolutely no omen of the future status of the elective Cæsarean section. If those of us who are connected with maternity hospitals will only, with one accord, cease resorting to embryotomy except in instances where, for one or another reason, the woman's condition does not warrant the section, I have little question but that the results will soon prove that the safety of the mother is not imperilled by the deliberate selection of the alternative operation which avoids mutilation of the child.

36 East Fifty-eighth Street.

NOTES ON THE THERAPEUTIC USES OF ARISTOL.

By DANIEL LEWIS, M.D.,

SURGEON TO THE NEW YORK SKIN AND CANCER HOSPITAL.

The claims which have been made for aristol in surgical practice, as well as in dermatology and dentistry, have been so often repeated by numerous authors as to indicate valuable therapeutic properties. It is not my purpose to review what has already been reported, but simply to offer a few notes regarding the results of its employment in my service at the New York Skin and Cancer Hospital, as well as in private practice.

The following preparations have been employed: Powdered aristol; aristol and iodol, equal parts; ointment of aristol and vaseline, 4 to 30; aristol gauze, moist and dry; solution of arstol in albolene or benzoinol, 4 to 30; solution of aristol in flexible collodion, 1 to 30.

The pure powder has been applied to the surface of an ulcer following the slough of a flap after removal of a cancerous tumor of the abdominal wall. The purulent discharge was very copious and offensive, the patient suffering from septicæmia in a marked degree before operation. The offensive odor was promptly corrected by the use of the powder, which was dusted thickly over the surface, and the discharge checked within twenty-four hours after the dressing was first applied. In this particular instance the dressing was changed to the ointment of aristol and vaseline, as the powder proved too dry an application. It was evident, however, that for checking suppuration the drug possessed powers superior to iodoform or any of the other preparations usually employed for that purpose.

In other and similar ulcerated surfaces, where healing under a scab is desirable, or rather unobjectionable, the powder formed a crust under which the granulations were healthy and sufficiently rapid. So far as I can judge, it possesses no specific alterative action upon malignant tissue, although my experience in that class of cases is not sufficiently extensive to warrant a denial of the cures claimed for it in epithelioma of the skin.

A most satisfactory result of the use of aristol powder was obtained in a number of cases of ulceration (non-malignant) of the cervix uteri. It was applied by means of an ordinary cotton tampon, smeared with vaseline, to which the powder adhered, then placed in position against the ulcer, and left from forty-eight to seventy two hours. Induration, thickening, and suppuration were all promptly improved, and the ulcers, which had resisted prolonged treatment by glycero-tannin, borated solutions and other applications in common use, finally healed. In no case was any irritation excited by the remedy itself, the stimulating effect corresponding in degree to that of tincture of iodine used in similar cases.

Another application in these cases, which is convenient and efficacious, is a mixture of aristol and iodol in equal parts, applied through the speculum by an ordinary powder blower, after which a light tampon of absorbent cotton may be inserted.

The same mixture has been employed in quite a large number of cases of chronic nasal catarrh, where the discharge was profuse or fetid, and when employed twice a day, improvement was marked and permanent. The aristol renders the iodol lighter and more easily used by the insufflator. The same absence of all irritation due to the drug, or any other disagreeable consequences, was as marked in these nasal cases as in the uterine diseases already mentioned.

The ointments of aristol, composed of vaseline or cold cream, are capable of wide application in all skin affections which show a tendency to pus formation, or where a mild stimulating effect is desirable. They may be used with equal success in fresh wounds which are left to heal by granulation, but my judgment is that a larger percentage than four to thirty must often be employed in such cases. A more desirable dressing after surgical operations is now supplied in the moist gauze, such as is manufactured by Schieffelin, upon which an additional quantity of the powder may be sprinkled when desired.

The petroleum preparations, albolene and benzoinol, are solvents of aristol, and form a neat and satisfactory dressing in many cases where moist applications are required. These solutions have been recommended where gangrene was threatening or already commenced, and in a case of that kind, after a phlegmonous erysipelas of the leg, plain gauze saturated with these and packed over the limb was exceedingly satisfactory. In some instances these solutions were found to be useful uterine and vaginal dressings instead of the more common applications.

One of the most valuable of all the aristol preparations, on account of its extensive application, is the preparation of aristol in flexible collodion. The ether is such a perfect solvent of the drug that the preparation is really an elegant one. In the first place, any abrasion of the skin on the hands of the operator may be dressed with this before commencing operations. The line of sutures is rendered impervious to air, and consequently infection from without, by being covered with a coating of this preparation. Here, as in other external cases, the absence of offensive odor and of any tendency to irritation places its utility far above the iodoform collodion which has been so generally employed for this purpose.

Recently I have employed it in the treatment of hyperidrosis of the palmar surfaces. A child, who had been unable to attend school because she could not hold a book in her hands without spoiling it, was relieved of all disagreeable symptoms by its use in a very short period.

No class of cases, however, have given greater satisfaction under this application than erysipelas in its early stages. A patient who was septic previous to operation for the removal of a malignant tumor, developed a decided erysipelas of the face the second day after the operation. One cheek, external ear and side of the nose was invaded during a single night, while the patient's temperature rose to 102° F. The inflamed surface and a little distance beyond it were painted with a thick coat of this aristol collodion, and the disease was immediately and entirely arrested. The coating was left in position four days, when it was easily removed, and there was no recurrence of the disease about the face. A few days later a similar inflammation developed near the seat of operation, and the chest-wall was painted in the same manner with equally good results An old gentleman, aged eighty-nine, was treated for an epithelioma of the external ear by Jenning's paste of caustic potash, vaseline, and cocaine, and two days afterward had a severe chill, followed by a temperature of 102⅘° F., and the entire external ear, malar region, and lower lid were involved in an acute erysipelatous inflammation twelve hours afterward. The disease had also shown itself over the eyebrow on the same side. A single application covering the diseased surface arrested all further spread of the disease, and three days afterward he was perfectly well, and granulations proceeding satisfactorily at the point of operation. I have often employed flexible collodion in facial erysipelas, and find it a satisfactory remedy, but in these instances it seems certain that the aristol acted as a disinfectant which was exceedingly prompt in its action, and more effective than any other application I have ever employed, not excepting the white lead paint which Mr. Barwell, of Charing Cross Hospital, has found so useful, and whose experience I have often verified.

We have, then, in the cases mentioned, a drug which is safe, agreeable, cleanly, and efficacious to such a degree as to render aristol one of the most valuable additions to our therapeutic agents which has been presented to the profession during recent years.

249 Madison Avenue.

THE DIAGNOSTIC VALUE OF VOCAL FREMITUS IN PNEUMONIA.

By J. P. RAND, M.D.,

Worcester, Mass.

About a year ago I had a case of pneumonia following la grippe in which the evidence of consolidation was very marked. The percussion-note was dull, almost flat, upon the anterior chest, so that I half-suspected pleuritic effusion might be present. But the ear could detect some respiratory murmur upon the back, and marked bronchophony and bronchial breathing in front, while change of position produced no change in the location of dulness; and yet when I sought by palpation to corroborate my diagnosis by increased vocal fremitus, I found it almost entirely wanting. I was puzzled at the contradictory evidence of the physical signs, for I had always been taught that vocal fremitus was increased in pneumonic conditions of lung tissue. I looked up the authorities. Loomis says, "Increased vocal fremitus occurs in those affections in which lung tissue becomes more or less solidified, as in tuberculosis, pneumonia, pulmonary apoplexy, and œdema of the lung." Again, under the physical signs of first stage of lobar pneumonia he says, "There is more or less marked increase in vocal fremitus over the affected lung; the degree of increase corresponding with the extent of the congestion." Under the second stage he says, "There is usually marked increase in the vocal fremitus over the consolidation. In some instances this is so slight that no difference can be detected; very rarely it is less than on the normal side." And under the third stage he says, "Vocal fremitus gradually diminishes." Flint says, "Increased vocal fremitus generally accompanies vocal resonance, and it

denotes solidification of lung." "Diminished or suppressed vocal fremitus is valuable in the diagnosis of pleurisy with effusion, empyema, hydrothorax, and pneumothorax."

Dr. J. Graham Brown, of Edinburgh, in his "Medical Diagnosis," page 142, says, "When infiltration takes place into the air-cells of the lung the pulmonary parenchyma becomes at once a better conductor of the vocal vibrations and in consequence the thrill becomes intensified. Such is the case, for example, in lobar pneumonia." "The fremitus is likewise increased where there is phthisical consolidation, particularly where cavities are formed."

All these authorities say that there may be cases of extreme consolidation in which fremitus is diminished or absent. Now, while I do not feel myself competent to contradict the teachings of our greatest physicians, in this particular my observations and reason lead me to doubt their correctness. In medicine as well as theology we accept too much and think too little. We are told in certain diseases such and such conditions obtain, and having made up our minds that the disease exists we look, and behold the conditions. In other words, we make a diagnosis from the history or appearance of the patient, perhaps in pneumonia from the very characteristic sputa, and presently we perceive all the physical signs described in the book as belonging to the disease. No matter how absurd and contradictory, how false and unscientific, we see them just the same, and thus year after year the fallacy is perpetuated.

I once read a story of certain accomplished knaves who manufactured a magic dress for an ancient king and claimed for it a marvellous power of detecting fraud, since any who were unable to see the fabric were by this fact proven unworthy of their positions. Immediately the king saw the fabulous dress and admired its beauty and texture. The royal family, courtiers, and officers of every grade saw and admired the same. At last, after months of pretended sewing and fitting the garment was completed, and upon an appointed day the swindled monarch paraded the streets in an imaginary dress. Everyone continued to praise and admire the illusion until an unsophisticated fellow exclaimed from the crowd, "The king is stark naked!" And the fool was right.

Are not physicians sometimes caught in the same trap with these courtiers? And for fear of appearing unskilled and unworthy of their profession, simply on the weight of authorities, describe symptoms that they do not see, perceive sounds that they do not hear, and assent to conditions that do not exist.

The art of physical examination depends upon fixed laws. The carpenter percusses the ceiling to find the supporting joists; the musician strains the strings of his instrument to make them in tune, and the surgeon pats the abdomen to diagnose the presence of fluid.

There is no contradiction of physical laws, no guesswork. The same is true of the thorax. Every sound and tremor in the chest is in accordance with natural law. Had we but sufficient knowledge we could never fail to interpret it rightly. Now what produces sound? The vibrations of the air upon the ear. And what produces fremitus? The very same vibrations perceived by the touch. The laws which govern the one govern also the other. Regarding the cause of sound or vibratory motion, the "Encyclopædia Britannica" says, "In acoustics we have to do with the motion of particles forming a connected system. These forces are in equilibrium with each other when the particles occupy certain relative positions. If any new or disturbing force act for a short time on any one or more of the particles, so as to cause a mutual approach or mutual recession, on the removal of the disturbing force the disturbed particles will, if the body be elastic, forthwith move toward their respective positions of equilibrium. Hence arises vibratory motion." "When a wave of sound travelling through one medium meets a second medium of different kind, the vibrations of its particles are communicated to the particles of the new, so that a wave is excited in the latter, and is propagated through it with a velocity dependent upon the density and elasticity of the second medium." "It appears to be well established that while vibrations of a solid are, in general, most readily communicated to other solids in contact with it, they are not so to liquids, and still less so to air and other aëriform fluids." "Likewise a musical string sounds very poorly unless connected with a resonant cavity, or wooden chest, to the wood of which it first imparts its vibratory motion, which then produces stationary waves in the continued air." Dr. Leaming says, "The violin, the most perfect of human instruments, is formed on the model of the human chest. It has two sounding-boards, one at the back and one at the front, and it has sides and ribs." "The vibrations of the vocal chords, or the strings of the violin, are reproduced and multiplied indefinitely in the sound-chamber of the human chest or violin." "Place a non-vibrating body upon the violin, or pour sand or shot or water into it, and its power of reproducing and multiplying sound will be notably impaired, and the same is true of the human chest."

Now, as I have observed, the cause of vocal resonance and vocal fremitus is one. The vibrations of the chest give to the one its character, to the other its thrill. Fill the chest cavity with sand, shot or water, as Dr. Leaming says of the violin, and see if its vibratory movements are not impaired. We know it is true of water, as is the case in pleuritic effusion, in which condition, the authorities tell us, "there is total lack of vocal fremitus." But in cases of pneumonia in which the lung tissue is filled with blood and serous exudation, so heavy even that it would sink in the very water that would prevent vibrations in effusion, these same authorities tell us that vocal fremitus is usually increased.

Take again the familiar illustration of the violin. Draw the bow and notice the fremitus produced by the touch; fill now that instrument with a moist sponge, a close analogue to healthy lung tissue, and repeat the experiment. The fremitus is still there, but less distinct. Now saturate that sponge with mucilage, which will cause it to lose its residual air, and perhaps to adhere to the walls of the instrument. Make it equal in density, if you can, the solidified lung of pneumonia, draw the bow and tell me is the vocal fremitus diminished or increased.

I am aware that in phthisis the emaciated chest-wall may yield a stronger thrill than is ordinarily communicated through both lung and chest. But the increase is not due to the lung, I believe, but to the lessened thickness of the thorax. The same might be true of pneumonia in the later stages, and from the same cause. I am aware, too, that a tumor, cancerous or fibroid, may communicate a cardiac impulse if situated over the course of a large artery. But I do not think that either could be rightfully compared to the inelastic condition of the hepatized lung.

From the foregoing observations it can be readily seen that the writer does not assent to the generally accepted proposition that a solidified lung is a better communicator of vocal vibrations than is the healthy one. It is against reason, against natural philosophy, and, according to my limited observation, against fact. During the past year I have asked my medical friends to observe especially the fremitus in pneumonia and see if it was increased. Some have corroborated my observation and tell me it is not. I wish every reader of this article would do the same, for I only seek the truth regarding it.

For Excessive Perspiration of the Feet.—Dr. Winogradoff advises an application of a five per cent. solution of chloride of zinc. The feet are first washed in tepid water and then the solution is applied by means of a sponge, the surplus being washed off after a few minutes. It is unnecessary to add that the application should be made only by the physician.

THE TREATMENT OF URETHRAL STRICTURE AND A NEW DIVULSOR FOR RAPID DILATATION.

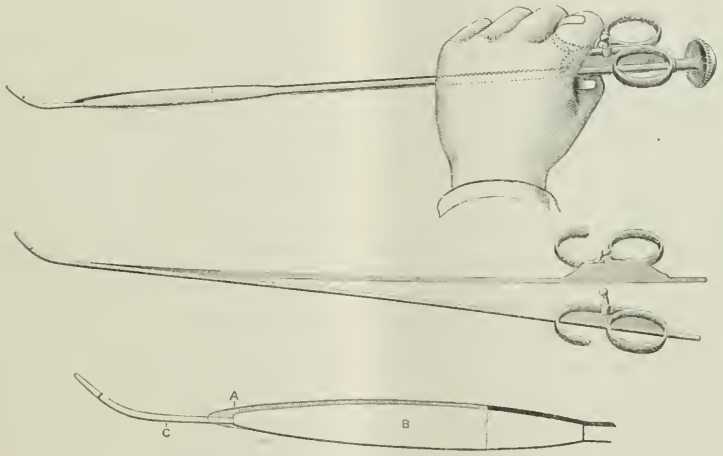
By OTIS K. NEWELL, M.D.,

SURGEON TO THE OUT PATIENT DEPARTMENT OF THE MASSACHUSETTS GENERAL HOSPITAL IN BOSTON.

JUDGING from my personal experience, and reinforcing my opinion with that of many able operators, I am led to believe that the best treatment of urethral stricture is that by the method of gradual dilatation. That in many instances, from the tedious progress made with very small strictures in this way, and from emergency treatment necessitated by retention or other causes, this method cannot be adopted is well known to all.

Gradual Dilatation.—In advocating the method of treatment by gradual dilatation I do not mean to infer that it can always be applied, but I do believe that in cases suitable for it the stricture is brought to the best possible condition in the safest and most comfortable way. It is to my mind a very fallacious argument which applies itself to this subject to demonstrate the curability of stricture. I believe that the true stricture, one which is represented by a greater or lesser amount of organized exudation of plastic lymph, which means just so much scar, or cicatricial tissue, is an incurable condition. Such a stricture may first show evidence of its existence by symptoms which come on according to its manner of origin, traumatic or otherwise, anywhere from a few days to three, five, or thirty years or more after the original cause.

Let me now take what I will call an average case and describe the method which I believe most suited to its treatment. A patient comes to you with a stricture giving rise to troublesome symptoms, such as persistent urethral discharge, slowed stream, over-frequent micturition, or whatever they may be. You examine the urethra with bulbs, as should always be done at first, to determine the number and location of the strictured places, and find two such in the pendulous portion, each about one-half inch in length and 14 French calibre. Forcing this calibre with sounds of next largest size, you find the strictures to be tough, almost cartilaginous, and therefore very resistive to dilatation. This condition, we will say, has been brought about by the gradual organization and contraction of lymph exudation following specific urethral inflammation, in repeated attacks some ten years previous. You now advise your patient as follows: "You have a stricture of the urethra in two places; that practically means that your urethra at those places, from the long-standing inflammation, has gradually become thickened and contracted, just as you may have often seen the scar from a burn. I believe the best way for you to get relieved of this condition is by having the stricture gradually stretched up to the point where you yourself can pass an instrument of sufficient calibre to keep it open. This, however, is only the first step, for in order to keep the urethra in the best possible condition you will have to pass the sound at varying intervals as long as you live. By passing the sound at first each day or two you will, by the pressure and the consequent increase of the circulation in the parts, cause the scar-tissue, or, rather, that portion of it which is not true scar tissue, to become absorbed, and so approach to the nearest possible cure of the condition; but in stricture of the nature of yours the contraction will sooner or later be sure to return unless you occasionally pass your sound." A condition which you have been years in acquiring, you can scarcely expect to make actually vanish in a short time by any method of treatment. You will probably proceed somewhat in this way: at first pass the instrument daily or every other day, according to the toleration of the individual urethra to instrumentation, but with absolute cleanliness and the other precautions, this does not vary much where the strictures are of large calibre; after two or three weeks the sound may be passed every two or three days for a week or two; then, but twice a week for a few months; then once a month for a year or so, and then once or twice a year, merely to determine whether or not the stricture has a tendency to rapidly contract."



A, Central Blade; *B*, Divulsing Staff; *C*, The Guide, Lower End

Of course the rapidity of this process and its regulation are determined by the individual case. Many strictures are easily distended and so readily made to absorb that they seem to all intents and purposes cured; while others are so tough and fibrous that their distention and absorption to the desired degree seem almost out of the question. With this latter class, however, I have seen some surprising results since following the above line of treatment. Notably in two cases where the strictures seemed so tough and fibrous that dilatation even with cocaine seemed almost cruel, so much force did it take. In one of the cases the fibres of the stricture when put upon the stretch with the sound, would snap with a loud report. Both of these cases I dilated, up to 28 French, the patients coming every other day for about two weeks, and then gave directions, after teaching the method of passing the sound, for the instrument to be passed with the same frequency for one month. One of the cases did not return to me for about two months, when to my surprise, I found that a No. 30 French passed without

any difficulty through the urethra. This patient then passed a No. 30 French for a time, at intervals, as above, and then returned for examination. He told me that he felt well in every way, was free from discharge, but there was an uncomfortable sensation at the point of stricture, and that he would like to pass a No. 32 French. I found that that size could be passed, although fitting tightly in the stricture. He has since continued to pass this sound at intervals, and is without symptoms. The other case, the one in which the fibres of the stricture were ruptured with a loud snap, steadily improved, and is now, some two years since the treatment, passing at intervals the sound, a No. 28 French, which I considered sufficiently large for his urethra. In regard to the size of the sounds I believe that for any ordinary case, no matter what calibre the urethra may be stretched to, a No. 28 to No. 30 French sound is sufficiently large, and that if a patient who has had stricture continues to maintain through life a passage into his bladder of this size, he will never be troubled by his stricture, and will moreover guard against any occlusion of the urethral canal, which an unobserved prostatic hypertrophy might bring about.

It is naturally true that this method of procedure has the widest variation, and we must study its application to the simplest case where a stricture established soon after its cause is mostly inflammatory, unorganized, and readily distended, so that perhaps in the most favorable cases complete absorption may be brought about, and cure, if in any case, in such a one made a reality. Of this reality, however, as before mentioned, I am in doubt and believe that where cicatricial tissue has once been established any operation to be curative must be plastic in its nature. The rapidity and frequency of the gradual dilatation must be regulated by the individual case.

Preparatory Divulsion.— Before considering the class of cases where some method of rapid divulsion is necessary, I wish to describe what may be called an intermediary group if they are treated by a method which I have applied to suitable cases with very gratifying results. These cases are those made up of strictures where from very small calibre, almost to impermeability, progress is very slow. I say bougie, as I always use bougies for gradual dilatation where the calibre is below 14 French to avoid the puncturing tendencies of a small stiff metallic instrument. If in these cases, after several days or a week or two, little or no progress has been made, I advise, having in the meantime got the urine and urethra into the best possible condition with internal medication and mild antiseptic injections, the passing of the first size divulsor of my instrument to be below described. I have thus, by means of this preparatory divulsion been enabled to begin with a sound of good size the rest of the treatment, which consists in the gradual dilatation of the stricture to the proper size by sounds according to the method above described. This plan of preparatory divulsion I have at times found very satisfactory, both in private and hospital practice. I have never been troubled by bleeding of any consequence after the passage of the smallest size of the divulsors; nor has this preparatory divulsion been particularly painful, even when done without cocaine, especially in deep stricture. I believe, however, in using cocaine solution, five per cent., for the purpose, of which about one and one-half drachms injected through the urethra with an Ultzmann deep urethral injector is usually sufficient.

Rapid Dilatation.—Finally we will consider that class of cases which from such causes as retention, or inability to afford the time and attention necessary for gradual dilatation, are forced to, what should always be the last resort, divulsion or rapid dilatation. Where this must be done I believe it is best performed by means of a divulsor. With the instrument described below, I believe this operation is made one of absolute precision and scientific correctness. Any rapid operation should be merely the first step in the treatment, which is later to be perpetuated with the proper sized sound passed at the necessary intervals so as to obtain the greatest possible absorption and guard against recontraction.

It may be asked, just what happens when we divulse a stricture? According to my experience, in the examination of a large number of specimens of urethral stricture, we have, as a rule, at the contracted portion of the canal a quite evenly distributed annular deposit of the organized lymph. Now when the divulsor enters this ring or tube, if the stricture be distributed throughout a considerable length of the canal, it breaks its way in lines evenly radiating, in more or less stellate form, from the inner to the outer circumference of the strictured ring. A condition is thus presented much more favorable for the subsequent treatment, than where the band is divided in a single line and direction by a urethrotome.

Against internal urethrotomy I can raise as the chief objections the greater liability to hemorrhage, the uncertainty that the cutting is continued in the same direction, and that even if it were possible to thus divide the intercavernous septum it would be only like dividing the finger-web, which would be sure in time to draw back to its original condition, and unless otherwise treated finally represent that condition with a cicatrix added to it. Most urethrotomes, above all, can only be used in strictures of considerable calibre.

External urethrotomy is, I think by most authorities, regarded as of use and justifiable only in cases of impermeable stricture.

Divulsion of stricture is, I believe, the most certain of the rapid operations and, having the best mortality statistics, the one always to be chosen. One objection to this operation was that in very tight stricture the divulsor coming down might fail to pass through the stricture and carry it through into the bladder, thus invaginating the urethral canal and making a serious laceration. Among many divulsions I have never known this accident to occur, but Dr. William C. B. Fifield, of this city reported to me an account of the autopsy of such a case seen by him in Paris. With my divulsor this accident would be impossible, as will be seen from its construction.

The instrument, as shown in the figures, consists of four principal parts. 1st, the guide *C*, on to which a filiform bougie may be screwed. This guide is made with two steel blades, over which the 2d important part, the divulsing staff, *B*, is carried, and between which the 3d important part, the central blade, *A*, passes. This central blade being between the blades of the guide is necessarily within the stricture when the divulsor reaches it and therefore makes the divulsion of the stricture absolutely certain. The 4th important part of this instrument is the handle, which, as may be seen in the figure, is so arranged that the guide is held firmly fixed in position by the left hand, the ulnar side of which rests against the pubes. Perforation of the bladder wall, a not uncommon accident, is thus surely prevented. Allowing about three inches for the portion of the guide beyond the handle which is taken up by the hand with the instrument held as shown in the figure, there remain about six inches of the guide in the parts beyond. The whole divulsor is twelve inches in length. The instrument should be well depressed, an important point often overlooked in divulsion, so as to have the divulsor pass in the line of the long axis of the prostate. The stricture is thus rapidly, and not indefinitely, divided. Starting with the smallest sized divulsor the tissues give way in their weakest parts, and as the contraction and infiltration at each point of stricture are generally pretty evenly distributed, the lines of rupture are probably located at quite regular intervals in the circumference of the disease. Here, again, by our treatment we have merely brought the urethra rapidly into the condition where the future passage of a sound at the requisite intervals must determine the permanency of the result. Having once passed sounds up to the proper size and taught the patient how to introduce the instrument himself I never advise the use of a bougie for the patient's after treatment. Such an instrument is hard to

clean and not durable. The metallic sound will last indefinitely and can be kept clean. I write for them six inches in length beyond the handle. This is plenty long enough to reach the neck of the bladder and much more convenient to handle.

This instrument is made by Messrs. Codman & Shurtleff, of Boston. It should be cleansed with running hot water and sterilized with steam or 1 to 20 carbolic-acid solution before and after using.

ANTIPYRETICS.[1]

By T. M. JOHNSON, M.D.,

CANTON, O.

THE subject for discussion to-day is a very large one, if we are to take into consideration the many antipyretics which we have at our present command; indeed, if we were to enter into the details of each method by which all such remedies acted physiologically and their therapeutic application, I am afraid our session would be prolonged into many hours, and in the introduction, I will be as brief and concise as the subject will permit.

And then, first of all, what are antipyretics? The common application of the term is a remedy efficacious in curing or reducing fever; and the term fever is applied to a diseased state of the system, marked by increased heat, acceleration of pulse, and a general derangement of the functions.

Many diseases of which fever is the most prominent symptom are denominated fevers, as typhoid, malarial, etc., and during this process of elevated temperature there is more rapid consumption of tissues. And not all tissues are consumed at the same rate; for example, in malaria the blood-corpuscles suffer most, and as a consequence anæmia results; in typhoid fever the nervous system is more profoundly attacked, thus accounting for the many nervous phenomena which you are all familiar with; while in phthisis all parts excepting the nervous system are implicated, thus explaining the preservation of mental activity until death.

And our own chief object in administering the different antipyretics is to preserve the organism from the destructive action of the fever, to ameliorate the action of the poison on the system, and so conduct the case to a successful ending, and to break a paroxysm of fever abruptly which is threatening the life of the patient.

In combating a fever there are two essential questions to be studied, the one is to increase the heat radiation and the other is to diminish its production. The former is only temporary, while the latter is accomplished by the use of well-known antipyretic remedies, to be administered internally as the case demands and to be continued as long as the pyrexia lasts. At the same time we must employ such remedies in addition that will remove the cause of the elevated temperature, for pyrexia is only the expression of the disease and pure antipyretics have no action whatever in aborting the process of a disease, except in the control of the fever.

The first prominent antipyretic that I will call your attention to is water. The use of cold water in fever is no new one, for it was employed in the days of Galen.

Cold water reduces temperature by continuance of its application until the results are obtained. At first in an acute fever, temporarily the heat increases, but as soon as the first shock that is produced or the reflex stimulation is over heat radiation takes place, by the abstraction of the calories from the capillaries. This must be continued for a short period. The best guide is to watch the clinical thermometer, and after a temperature of 105° F. has fallen to 102° F., then it is time to withdraw the cold bath, as there is always a tendency for the temperature to continue to decrease for a while after the cold bath has been withdrawn. The efficacy of this method of abstraction of heat is beautifully illustrated by an experiment of Professor Wood, in which a man was placed in a cold bath, with a temperature of 110° F., with a feeble running pulse of 170, irregular, jerking, slow breathing, and to all appearances near death. The bath was of a temperature of 60° F., and in one minute and a half consciousness was fully restored and in another minute the patient, with a temperature which was comfortable, was trying to get out of the bath. And in cases of high pyrexia with wild delirium, there is nothing which is so effectual, in a short period of time, as the cold bath. And I should say in acute pyrexia, where the life of the patient is in danger from the heat, the latter should be withdrawn as rapidly as possible by means of the cold bath.

In the continued fevers, a primary therapeutic indication is to reduce the temperature. Of course, this should be done if possible by checking the excessive production of heat, but often this is not in our power, and then we are forced to use some other means. During the process of prolonged application of cold the temperature falls, and at this time there is more consumption of tissue. This is explained by the increased amount of carbonic acid gas which is given off at this time, and which rapidly diminishes as the heat is abstracted; and I believe I am not far wrong when I say that those who oppose this method are chiefly those who use the bath in too mild a form, or depend on inexperienced attendants to carry out the directions which perhaps have been given in a meagre manner.

The clinical value of water, as evidenced by tests in various institutions as well as in private practice, has, on the whole, been highly successful, not alone in its antithermic qualities, but in the reduction of mortality, which has been brought from twenty to eighteen per cent. to even as low as two and four per cent. by Brand, of Stettin, in his cases of typhus fever, where the cold bath and the cold pack were the only antipyretics employed, while under the old expectant method which is still in operation to-day, the mortality was as stated, eighteen and twenty per cent.

I am quite positive if the antipyretic treatment of typhoid fever were pushed forward by the use of more cold bathing, cold pack, or the thorough application of the cold sponging, we would quiet more of the nervous phenomena, than by the use of the best of the antipyretic drugs.

The application of this method is very general, and the only exception in which we might display caution would be in severe bronchitic or pneumonic symptoms, occurring in the early stage of typhoid fever, or when this same condition was manifest in the acute exanthemata. A state of collapse due to high temperature might also be considered as a condition in which cold should be withheld.

In the employment of this antipyretic method certain considerations should never be forgotten; it should be borne in mind that we are combating a symptom, and the method should be used only when the symptom threatens injury. The danger-point is considered by eminent writers to be 103° F. in the mouth, unless the pyrexia should be severe. As a general rule, it is very satisfactory to commence with a bath of the temperature of 85° F., and then cool as the case demands. Should the extremities become cool, they can be rubbed so as to maintain circulation, while the body can be bathed with good effect.

In a paper by Professor Winternitz, who is one of the enthusiastic supporters of the cold bath, he says that he is not an advocate of the prolonged baths, or of very low temperatures. He has clearly proven temperature reduction is not the chief aim of this method of treatment, but that the reflex effect upon the nerve-centres, upon the heart, etc., also may be produced by cold packs, ablutions, and half baths in which the water is constantly agitated. And I believe if this latter method is thoroughly applied that the profession will be greatly pleased with the results, and the public be kindly disposed to its application.

One of the many chemical antipyretics which have of recent years come into general favor, is antipyrin, a white

[1] Read at a meeting of the Union Medical Association of Northeastern Ohio, at Akron, O.

crystalline powder of a bitter taste, soluble in six parts of water, and very soluble in alcohol and chloroform. The method of preparation is patented, thus accounting for the high price at which it is sold in comparison with other equally potent antipyretics.

The physiological action as yet is very far from being solved, but this much we all perhaps have observed, that an accumulative action is apparent, and that the drug produces a state of relaxation, and a loss of reflex action. According to Coppola, the drug has no influence on the circulation, and in many cases, after the largest dose, the heart is arrested in systole. Professor Demme says that his experiments showed at first elevation of the blood-pressure, followed by violent tetanic cramps, then progressive falling of blood-pressure, and lessening of reflex; the heart continuing to beat with blood-pressure almost at zero, and death appears to have been produced by failure of respiration, the pupils being constantly dilated. It is freely eliminated by the kidneys, but not as rapidly as it is usually administered, and thus, I have seen a few cases where there were symptoms of accumulative action, in which the patient was distressed with giddiness, pain in the head, and slight nausea.

Antipyrin has been employed with some excellent results in cases of high temperature, but we must be cautious in its continuance; especially is this true if there is much adynamia present. The general opinion is that the collapse seen where it is used exclusively is dependent on its action on the heart, but this is not correct, for the evidence shows that nerve-centres are depressed.

In the fever of pneumonia in the first stage it is an excellent drug to be administered, and it is even more valuable in acute bronchitis; it slows respiration, and has a calmative effect on the nervous system.

The dosage of this drug as set down in our text-books is, I think, entirely too large for safety. Some say a dose of thirty grains to an adult, and repeat until sweating is produced. I should prefer to give a much smaller dose and wait for results after the first dose is given. The effect is usually produced in less time than three hours. By this time we can see the action, and if there is then no perceptible reduction, it is well for us to consider the cause of the pyrexia; if we find that it is of a nervous type we again can give a decided dose and be gratified at the result, but if we find that the fever is due to pus, then quinine is the drug par excellence.

The evidence, as gathered from different authors, shows that the drug has a central action entirely. This is evidenced by the fact that it is partly an antineuralgiac. And its action on pyrexia is on the heat centre, which is located in the medulla, thereby preventing heat production.

Closely allied to antipyrin is acetanilid, which is a drug also derived from the by-products of coal-tar. The drug has much the same action as antipyrin, but while it is a less potent remedy for reduction of high temperature, it is decidedly more of an analgesic, especially so in the migraines. The drug is not so soluble, and is more conveniently dispensed in dry form. The dose is about one-half that of antipyrin, and the time required for the reduction of the fever is about three and a half hours. When there is a typhoid temperature of about 104½° F. a dose of 8 grains is effectual, but in half an hour to an hour the temperature ascends to its original high degree; with this drug, then, there may be a repetition of the dose every four or five hours in order to control the fever. Often copious sweating follows this administration; and in the high temperature of scarlet fever it answers admirably.

The next antipyretic which has come into general favor, and which is now rapidly displacing antipyrin and acetanilid is phenacetine, or acetate of phenol. This is not a true antipyretic, but partakes, like salol, of an antiseptic character. It is a light brown powder, partly soluble in the ordinary menstruums, and should be dispensed in powder or capsule.

Its physiological action is central and peripheral, thus making it a valuable antipyretic remedy in the treatment of typhoid fever, where we get the combined action on the central nervous system, and at the same time its antiseptic action in the intestinal tract. As an efficient antipyretic in high temperature the dosage should be from 8 to 10 grains in the adult, and one dose of that size is more useful than repeated smaller doses. It does not produce any bad symptoms or any depression, although slower in its action than antipyrin or acetanilid, but it is on the whole safer. It is a valuable drug in the fever of influenza, where, in addition to the antipyretic effect, it also acts as an analgesic. It produces copious sweating after a full dose is administered. It is undoubtedly the best antipyretic in the treatment of fever, of the acute exanthemata, and of acute rheumatic fever.

I omitted to state when speaking of antipyrin of the seventeen cases of poisoning which proved to be fatal in one week in Vienna during the prevalence of the influenza. In many cases the drug was bought by the victims themselves in the shops without the prescription of a physician, and in consequence it is now illegal to sell antipyrin without such a prescription.

The new coal-tar derivative, antikamnia, has within the last few months come into general use in some parts of the country. This drug, like phenacetine, is partly antiseptic and strongly analgesic.

My experience has been so limited that I am unable to go into details of its physiological action. Its action as an analgesic appears from the best evidence to be central, and I do not doubt that its antipyretic action is of a central character, thereby depressing heat production.

I ordered 8 grain doses in a case of cephalalgia, to be repeated at the end of three hours until four had been taken, with gratifying results. It causes no excitation and no depression of the vital forces and is best administered in liquid form. It is without disagreeable taste.

A very important antipyretic is salicylic acid. In doses of from 10 to 30 grains it produces an uneasiness of the stomach, and if pushed further gives rise to cinchonism. If given in toxic doses it causes ringing in ears, deafness, strabismus, ptosis, dilated pupil and delirium, the circulation is profoundly affected, and the urine becomes of olive green color due to the cannabin. It is absorbed and circulates as salicylate of soda, and escapes partly changed. After full doses of 10 grains, and repeated, the fever falls and profuse sweating follows. The use of this drug will reduce temperature in large doses in one hour, but is less permanent than the other antipyretics mentioned.

In acute rheumatism it answers a double purpose: first, reducing the temperature; and second, controlling the disease. In full doses it acts as an irritant to the kidneys and stomach. The best and most compatible preparation to be given is in the form of sodium salicylate, which is very soluble, and has a flat, alkaline taste.

Tincture of aconite is prepared from the root and is the best preparation for internal administration. The alkaloids are not a safe and reliable preparation to be dispensed, due to the fact that they are not of a uniform strength.

The symptoms which are induced by small therapeutic doses in man are reduction of force and frequency of the circulation, a sense of muscular quietude and weakness, and a slight tingling in the extremities. If the dose be larger all these symptoms are intensified, and in toxic dose respirations are shallow, marked anæsthesia of the surface is present, the skin is moist with a cold sweat, and the pupils are generally dilated.

From these facts we have only to conclude that aconite paralyzes the peripheral sensory nerve-endings, and that it is also a direct depressant on the centre of respiration. There are only two important indications met by the use of tincture of aconite. The first is to lower arterial tension, and the second is to reduce temperature in sthenic type of fevers not dependent on a deep-seated cause as in the febrile movements of acute muscular rheu-

matism, and the ephemera or irritative fevers of childhood. In the early stages of the exanthemata when no adynamia is present, its influence is beneficial.

Tincture of veratrum viride is a powerful respiratory poison, lessening at first the frequency of the cardiac beat by stimulating the pneumogastrics, but soon losing all control over the heart, owing to the powerful influence which the induced asphyxia exerts.

When taken in small doses it reduces the force without affecting the frequency of the pulse, but after it is continued for some time the number of pulsations are very much reduced.

In full therapeutic doses it lowers the pulse-rate both by a direct action on the heart-muscle, and by stimulating the inhibitory nerves. It produces a general vaso-motor paralysis, more or less complete according to dose. It causes increased diaphoresis, and it is also a strong spinal sedative. It meets two indications, first, to reduce spinal action, and second, to reduce arterial action.

In the early stages of sthenic pneumonia it is of the greatest value in reducing the temperature and in lowering arterial tension, depressing or paralyzing for the time being the vaso motors, and thus allowing an equal distribution of the blood.

In peritonitis, either incipient or developed, it is the drug par excellence.

Under the term of antipyretics I might well include quinine, but as it is employed more as a tonic and curative remedy I have omitted it from the list. Furthermore, its use is so well understood, that a discussion of its antipyretic action might be an infringement on time which may be utilized to a better purpose.

FEBRUARY 10, 1891.

THE RHEUMATOID CONDITION.

BY J. S. PRETTYMAN, JR., M.D.,

MILFORD, DEL.

WE may employ specific terms for characterizing certain definite groups of symptoms for designating morbid conditions of the system, but, after all, disease itself is a unit, every pathological process the result of mal-nutrition, arising from and depending upon an abnormal condition of the blood. With the blood unhealthy the cell-life, the vitality of the body, will necessarily be impaired, and a defective organization that cannot create pure blood will prove a nidus for every lurking germ, where it may develop and multiply, feeding and growing upon the tissues. A robust organization, with all of the bodily functions normally-performed, with perfect nutrition, and with the cell-life properly sustained, will resist and overcome such intrusion.

The strumous subject is an illustration of this. Badly nourished in utero and brought into the world with defective blood-making organs, his vitality continues low, his tissues, as a consequence, are without power of resistance, and when the sickly cells are attacked they readily yield their life, and are devoured by the bacilli tuberculosis. If they were well nourished and made strong by pure blood they would reverse the process and destroy these micro-organisms. It is the "weak," the poorly nourished, whose defective organizations cannot form normal blood, that become the early victims of disease and death.

The similarity of tissue, of organic structure, of parent and offspring, heredity, may account for much of the physical evil, of the weakness, of the degeneration; but aside from this, the startling fact confronts us that more than half of all pain and physical suffering, of all disease, is the result of sensuality—of gluttony, "intemperance," excessive lustful indulgence. The very functions that were instituted to multiply life and prolong existence have thus become, through abnormal gratification and development, instruments of anguish and death—a sad reflection alike upon the intelligence and morality of humanity. If, through a greater advancement, a higher moralization, we can control our appetites, administering to them prudently, wisely not foolishly, rendering them health-giving not life-destroying, we shall have in our possession a latent, inestimable, disease-preventing, healing power. The present sensual desire must be sacrificed for the ultimate good and purpose. If, in the future, physical pain is to be lessened, vitality augmented, life prolonged, it must be through the conservative force of an enlightened conscience, guiding every habit, directing and controlling every desire, rather than by drug administration. We reckon not wisely in trusting to anything else; drugs, after all, can accomplish little; in organic trouble we are almost helpless, and it is the part of wisdom to look to prevention. "Physic is made for fools," and only so long as fools exist will there be occasion for its administration.

Rheumatism, as it is generally regarded, is not properly a disease, it is but a symptom, the expression of a general condition that is manifest in several ways—in lesions of the vascular and hæmatopœtic systems, extending to every tissue and structure of the body. It is characterized by hyperæmia, acute and chronic inflammations, with an overgrowth of connective tissue and a deposition of insoluble salts, arising and resulting from excessive introduction into the economy of normal food products, and through failure of oxidation and elimination of effete material. It is a condition of plethora, the system incapable of burning up the pabulum introduced, while the depurative organs have thrown upon them more than they can accomplish, and thus weakened and paralyzed by excessive stimulation lose their proper strength and function.

It is not necessary to wait for the aching nerve and muscle, the swollen and painful joint, the laboring heart, to protest against the intrusion. The condition earlier than this is manifest in disorders of digestion, in hyperæmia and congestion of the liver, in excessive urate excretions of the kidneys, in acute catarrhs, conjunctivitis, pharyngitis, bronchitis, cystitis, etc., by burning "frosted feet," by purpura and other lesions of the skin, all indicating a morbid product, or products, in the circulating medium, the blood. If the effete material accumulates until joint and heart and viscera are involved, irreparable damage has indeed been done, and the economy will go on lamed and crippled for a time. The diagnosis should be made in the incipiency of the trouble, before the grosser lesions have occurred, and the proper hygienic and medicinal treatment be instituted at once. The urine alone, in the augmentation of uric acid and the urates, gives almost positive evidence of the condition days before other symptoms arise.

In November of 1889, G. R—— came to me with an acute conjunctivitis, both membranes being involved. His breath was foul, his tongue heavily coated, digestion poor, his liver torpid. His skin was dry and harsh, complexion sallow and "muddy," the urine heavily loaded. "brick-dust" deposits falling to the bottom of the receptacle. I suggested as the cause of the inflammation, "full habit," a tendency to rheumatism. Prior to this he had been exempt from the trouble, but in forty eight hours his wrist and ankle became involved, swelling slightly, and disappearing in a few days simultaneously with the conjunctivitis. Three months afterward he experienced a return of the symptoms in identically the same order. In December of last year for the third time he came to me with a conjunctivitis, very slight, saying that he desired treatment for the rheumatism; that it had previously followed the eye inflammation and that he hoped to prevent its reappearance.

I visited Mrs. G—— in the winter of 1888 and found her suffering with a severe laryngitis and bronchitis. Her general symptoms were those of the case above, with the exception of the conjunctivitis and with an addition of purpuric spots upon the skin. I diagnosed "uric acid" as the cause of the trouble, and shortly afterward

several of her joints became involved. In all of her life before she had never felt a rheumatic pain to her knowledge, and consequently she questioned my diagnosis. I was rather glad to have it verified, as it gave her confidence, and the prompt relief that followed under salicylate of soda was gratifying to herself and to me. I have seen her again this month (February, 1891) under like conditions, and the same good results followed treatment.

Mrs. P——, fifty-seven years of age, has been a great sufferer from an excruciating, tearing, burning, tic-douloureux, associated with muscular pain and soreness. She has had this trouble more or less for years, and it generally returns when she considers herself in good health and full habit. She had been treated with belladonna, nux vomica, hyoscyamus, quinine, arsenic, and other like drugs without amelioration of pain, until she was thoroughly discouraged and disgusted. The fact of the pain returning always when she was apparently in the best physical condition, stout and plethoric, associated with a greatly augmented uric-acid excretion, led me to place her upon sodium salicyl. and potassium iodide. The symptoms yielded at once, and it is the only treatment, according to her own admission, that has ever afforded the slightest favorable results. She has not lately experienced a severe recurrence, as she begins treatment, always insisting upon having the medicine by her, at once upon the slightest reappearance of pain.

J. H—— for several years was annoyed with "frosted feet," trying many external remedies in vain. In cold snowy weather the burning and itching always returned, and he could find nothing that seemed even to afford temporary relief. He was subject to catarrhal affections of the throat and eyelids, and the capillaries of his face were dilated and thickened. He also complained of muscular pain and soreness. The rheumatic treatment gave him relief, and for two winters he has had no recurrence.

Most people eat for mere enjoyment to gratify the sense of taste, not to sustain the body, and consequently take more food than is needful. This is especially true in the condition designated rheumatoid, where the emunctories are struggling to eliminate that which has already been introduced, which the system cannot consume and appropriate; the blood thus becoming contaminated. In the treatment of the condition a rigid diet is the first requisite, not only withholding nitrogenous products but to a great extent all foods, so that the economy may burn up and throw out that which is already within. Prolonged fasting is one of the very best measures that can be employed, and it should be insisted upon and enforced; subsisting even for a time upon our own tissues, for if the viscera are preserved there will be no difficulty in the restoration. In an inactive, sedentary life we need but little food, it is indeed astonishing upon how little we may retain bodily heat and vitality. The late exhibition of public fastings should prove wholesome lessons, and while we should never attempt to carry the measure to so great an extent we should yet rigidly discipline our appetites, administering to them all guardedly, temperately, becoming regal masters of every passion and desire.

Large draughts of water should be taken upon an empty stomach to wash out the system—flushing the tubes and carrying out the soluble excreta. It is Nature's cleansing fluid, and its importance may be estimated by the fact that it constitutes ninety per cent. of the entire bodily weight—the basis of all secretion and excretion. Bathing is also an excellent hygio-therapeutic measure, cleansing the skin, stimulating the surface glands and increasing perspiration. The addition of an alkali to the water will neutralize the acidity of the skin and increase its effectiveness. The steam-bath should frequently be employed, it will prove most beneficial.

Vegetable acids should also be taken freely in the form of fruit. By chemical union in the system with alkali bases they produce neutral, freely soluble salts, increasing oxidation and stimulating and aiding the excretory organs in the work of elimination. An orange or an apple before the morning meal is generally acceptable, and will almost always prove beneficial; while fresh or stewed fruits may be taken for dinner. In almost all American households too much meat and too little fruit is consumed. A simple observance even of this kind will tend to increase longevity, and eliminate much pain and suffering.

In our changeable climate, with its varying temperature, its fluctuations in atmospheric moisture, the surface of the body should be well protected, suffused with blood, for otherwise the viscera and internal organs will become congested, and acute and chronic inflammation result. Flannel is an excellent material for the purpose. The wool fibre is a poor conductor of heat, and by this property retards radiation, keeps the heat thrown off from the body closely confined. Silk, probably to a less degree, has also the same property, while cotton and linen rapidly diffuse heat, and consequently fabrics woven from these materials are suitable to be worn only in the warmest summer weather.

If such preventive measures as indicated above should be instituted in infancy and maintained through life the rheumatoid condition would never appear and the occasion for drug administration would not arise. It is surprising how even the youngest infants are overfed, and in most families this "stuffing" process continues through childhood, adolescence, manhood, and old age. With man's heart, and soul, and life thus bent upon fleshly, sensual gratification, in constant violation of Nature's laws, how can we anticipate aught else than pain and suffering? It is nature's protest, a just retribution for such indulgence.

But, while "to err is human," some means must be devised for overcoming physical pain, of remedying the evil, of restoring the injured part or organ, and this is the origin of all medicinal treatment. In the rheumatoid condition it is not surprising that but little is accomplished in this respect, if the diet, if the habits, if the environment of the individual remains unchanged. Brought on by years of excess it cannot be overcome by moments of repentance and good works. Remove all exciting causes, institute hygienic measures, with rigid diet, and then administer therapeutic remedies, and almost invariably improvement will follow and in most cases an entire cure will result. If organic changes have occurred, lesions of the heart, valvular troubles, etc., we cannot hope for a restoration, they will probably remain through life; but if an opportunity is early afforded we may diagnose the condition previous to the occurrence, and with a proper co-operation upon the part of the patient prevent such serious changes.

If the etiology of rheumatism is established as above, then the medicinal remedies indicated are those that increase oxidation and elimination. Upon this supposition the alkalies are administered, and usually with benefit. The salts formed by chemical union with vegetable acids are eliminated as carbonates, increasing the action of the skin and kidneys, and rendering the urine and other excreta alkaline. The action of the salicylates is very similar, and the results are frequently exceedingly gratifying. If the acid itself is administered, it unites with an alkaline base before absorption and is eliminated very much as are the alkalies, decidedly increasing the flow of urine and the secretion of the skin. In acute cases, so far as relieving the pain and swelling of joints are concerned, there is probably no better single remedy than salicylate of sodium. It should be given until its physiological action is clearly manifest, watching its effect upon the heart, and continuing until tinnitus aurium is decided. The dose must be regulated by the susceptibility of the individual.

In subacute and chronic cases the iodide of potassium is an excellent remedy, perhaps yielding better results than any drug in the materia medica. We not only get the effects of the potash, but also the alterative effects of the iodine, and the increase of the nitrogenous break down is

apparent in the accelerated elimination of urea and uric-acid combinations.

There is another class of remedies that have proven in my experience very useful, and I resort to them frequently with confidence; the so called vegetable alteratives and cholagogues—irisin, phytolaccin, podophyllin, leptandrin, etc. They seem to have an affinity for glandular structure, acting upon and stimulating the depurative organs; not only affecting the liver and kidneys, but increasing secretion generally.

If I should be called, then, to what might be regarded as a typical case of acute rheumatism, where the muscles and joints were clearly involved, I should prescribe medicinally somewhat as follows:

℞. Podophil ..... gr. j.
Leptandrin ..... gr. iij.
Sodæ bicarb ..... gr. iv.
M. In pil. iv. ft. S. Two every three hours.

In our climate I should follow this with some preparation of quinine, for it seems generally indicated, and as belladonna would increase peristalsis, and thus aid in expelling the biliary and other excreta formed by the action of the above pills, I would order this combination:

℞. Bellad. ext. ..... gr. j.
Quin. sulph. ..... ʒ j.
M. In pil. viii. ft. S. One every two hours.

Immediately afterward I should give salicylic acid in some form; the following is perhaps as agreeable as any:

℞. Sodii salycyl ..... ʒ iij.
Elix. calisay ..... fl. ʒ iij.
Syr. simp. q. s. ..... ad fl. ℥ iij.
M. S. Teaspoonful every three hours in water.

In most cases I should expect the swelling to subside and much relief to follow. If the case should not, however, progress favorably, if the trouble should assume a subacute or chronic form, I would prescribe:

℞. Potas. iodide ..... ʒ iij.
Syr. stilling. comp. ..... fl. ℥ iv.
M. S. Teaspoonful every four hours in water.

At the same time commencing, alternately every two hours,

℞. Podophyl. ..... gr. v.
Irisin,
Phytolaccin. ..... āā gr. x.
M. In pil. xxx. ft. S. One every four hours.

Occasionally it may be necessary to withdraw the pills for a short time, but a continuous depurative action is desired and must be maintained as far as possible without injury to the patient. With the skin and kidneys excreting freely, with the glandular system and the liver actively at work, and the bowels assisting by free defecation, the economy will quickly rid itself of the poison, and to a great extent will regain its normal strength and health. In connection with strictly hygienic measures I question if a better form of treatment than the above has ever been devised. I certainly have found nothing that gives more favorable results.

Milford, Del., February, 1891.

Another Explanation of the Lessening Population of France.—According to Mme. Lachapelle, a midwife of Paris, the reduced birth-rate in that city is the result of the low standard of education of midwives. A midwife's qualifications are now so slight that many incompetent women have obtained diplomas, and as there is not enough legitimate work to support them they are forced to make money by procuring abortions. But the abortions would not be committed unless the mothers desired them, so that it seems hardly fair to cast all the blame upon the ignorant midwife.

A CASE OF IDIOPATHIC SPINAL HEMORRHAGE.[1]

By THEODORE DILLER, M.D.,
FELLOW OF THE PITTSBURG ACADEMY OF MEDICAL SCIENCE.

Hemorrhage into the spinal cord of traumatic origin has been noted often enough to establish the fact of its occurrence beyond a doubt. But as to whether hemorrhage into or about the cord may take place without an antecedent traumatism some writers are in doubt. However, the majority of authorities do admit that idiopathic spinal apoplexy may occur, but they are all in accord in stating that the condition is found only very rarely.

In view of these facts I trust the case I am about to relate may be of some value as tending to place the existence of the disease beyond the peradventure of a doubt. Although the case is incomplete insomuch that no post-mortem record is included, yet I believe that the clinical history alone will be sufficient to establish the diagnosis beyond doubt.

J. K , a laborer, aged fifty-one, had been in robust health, and was working steadily up to the date of his present illness. He is a tall man of rugged frame; habits of life, good; never had syphilis, rheumatism, nor any prolonged illness. Heart normal.

March 12, 1891.—After performing his ordinary day's work he went to bed at his accustomed time, nine o'clock, feeling as well as usual. But instead of going to sleep in a few minutes as had been his habit, he remained awake, tossing about the bed uneasily until eleven o'clock when he was suddenly seized with an excruciating pain at about the first lumbar vertebræ which radiated from thence around his abdomen and down his thighs. He at once arose from bed in the intensity of his agony, and rapidly walked up and down the room. After a few minutes he sat down upon the edge of the bed and bathed his feet in hot water which his wife had brought for him. While thus engaged he became nauseated, and attempted to vomit several times but did not succeed. The gastric distress lasted only a few minutes. While his feet were yet in the water he noticed that they were becoming numb, and he told his wife about it. Upon attempting to stand erect very soon afterward he was conscious of a diminution of power in his legs. He was greatly alarmed at this discovery and at once got into bed and became aware, a few minutes later, of the entire loss of motion and sensation in both legs. The pain rapidly lessened in intensity, so that he was entirely free from it twenty-five minutes after the initial attack.

The patient feels sure that his consciousness, his memory for words and ability to utter them was never lost or even impaired during the attack. Members of his family bear him out in this statement. They are further in accord in stating that at no time was motion or sensation in any of the muscles above the waist impaired. The loss of voluntary control of the bladder and bowels was noticed the next day and must have occurred coincidently with the pariplegia.

A critical examination the next day revealed the following condition: Paralysis of motion complete in both legs; greatly impaired motion in the abdominal muscles; sensation of all kinds completely lost in both legs—impaired over the lower part of the abdomen. Patient is unable to expel urine or fæces; was not aware that both bladder and bowels required evacuation. No impairment of the mental functions; no pain. Motion and sensation in muscles of upper half of body unimpaired.

Subsequent History.—Pain never returned, save for an occasional twinge. Urine and fæces taken away regularly by mechanical means. The paralysis as described continued unchanged until about April 4th (three weeks after the initial symptoms), when the first signs of the return of muscular power were noted. Patient could, at that time, move toes of left foot. From this time up

[1] Read before the meeting of the American Medical Association at Washington, May 6, 1891.

to the present date (May 1st), there has been steady progress toward recovery. He can now move both legs about the bed, flex knees and thighs. Sensation has largely returned. He is not yet able to expel his urine and fæces, although he experiences the desire.

Remarks.—The very sudden onset of the symptoms would preclude the possibility of the trouble being due to tumor, aneurism, bone disease or myelitis. An embolus would produce sudden symptoms, but it would be highly improbable that trouble of this kind could cause such a complete condition of paraplegia in less than half an hour. So I am forced to conclude that the lesion was a hemorrhage—and a very large one—either in the cord itself, or in the structures immediately surrounding it. I am inclined to think the hemorrhage occurred in the cord itself. As to the part of the cord involved, the symptoms would indicate the lower part of the dorsal region.

The treatment consisted of iodide of potassium, strychnia, and galvanism.

Clinical Department.

INTESTINAL ANASTOMOSIS IN A YOUTHFUL CASE OF FÆCAL FISTULA RESULTING FROM HERNIA.

By C. DREW, M.D.,

JACKSONVILLE, FLA.

James B——, colored boy, aged fourteen, came under my care in November, 1890. He stated that during the previous August he had been ill, and that after a few days of sickness, a fistula appeared and fæcal matter was discharged through it. He gave no history of any severe suffering such as we usually expect from strangulated hernia. Examination showed a fistulous opening directly over the right internal inguinal ring and a second and lower one in the scrotum over the external ring, both discharging fæcal matter, and evidently connected by the inguinal canal. There was an occasional discharge per anum.

He remained under observation, with the hope that nature would accomplish something for him, until January, 1891, but gradually lost flesh and strength; the parts around the fistulæ becoming inflamed and œdematous. He earnestly desired any operation which would offer a promise of relief. January 22, 1891, after an antiseptic bath and covering the fistulæ with antiseptic towels, I brought him under the influence of ether, and made the usual incision at the right margin of the *rectus abdominis* muscle, about four inches long, reaching nearly to the internal ring, and just inside of the upper fistulous opening.

All hemorrhage having been controlled, the peritoneum was opened, and the coils of intestine raised carefully out and covered with towels wet in warm Thiersch's fluid. The invaginated portion of gut was easily found, and proved to be the ileum, about four inches from the ileocæcal junction. As usual, the upper segment was much larger in calibre than the lower. An aseptic silk ligature was placed around both segments as near the ring as it was possible to tie it, and a long narrow forceps clamped around them about one and one-half inch from it. Packing an aseptic laparotomy sponge under the intestine I divided it, raised the intestine from the cavity, and carefully cleaned the stump before removing the sponge. Ligatures of aseptic tape were now placed about four inches from each divided end of intestine. The two ends were now cleaned, invaginated, and the catgut rings applied through slits made in the sides of the gut, as advised by Dr. Robert Abbé in his paper published in the Transactions of the Philadelphia County Medical Society, May 8, 1889.

I found upon reaching this stage of the operation that between the invaginated end of the ileum and the cæcum there was hardly room for the application of the rings.

I intended bringing the stump of intestine through the ring, but at this stage found my patient so exhausted that I could not do so, and allowed it to remain in the cavity with the ligature around it. The cavity was closed with a row of catgut sutures through the peritoneum, and silver wire through the external walls; no drain was inserted. He was put to bed almost pulseless, but rallied slowly under the influence of hot applications and stimulants. Up to the fifth day nothing unusual occurred, and there was no rise of temperature above 99.5°; no vomiting and very little pain or tympanites. He was kept under the influence of opiates, with cracked ice, and an occasional teaspoonful of milk or of beef-tea, but not sufficient to cause intestinal peristalsis. Urine was passed soon after the operation and two good fæcal evacuations were had on the fifth day. From this time the patient gradually sank, and died on the sixth day.

Post mortem examination revealed sloughing of both invaginated ends of the intestine, and partial adhesion of the peritoneal surfaces between the rings. The rings were partly absorbed, and there had been an escape of fæcal matter into the abdominal cavity, with consequent peritonitis and death. In making the exsection of the bowel I had removed the usual **V** shaped portion of the mesentery, and united the edges with catgut sutures, but when the pieces of gut were united side by side, with the ends in opposite directions, there was an unavoidable lapping of a portion of mesentery not removed. It has been suggested that it is not safe to remove even the small portion of mesentery, necessary for the neat invagination of the divided ends of the bowel, for fear of cutting off the blood-supply from the parts, and I suspected that this might have had something to do with the sloughing of the ends. I have felt since doing this operation that Dr. Wyeth's plan of closing the inguinal ring by drawing through it the stump of intestine is the best procedure; if this is not practicable, I think it best to drain the stump well both from within and from without, and leave it in the cavity without any ligature, except such small ones as may be needed to control hemorrhage. I believe it will be always best to insert a drainage-tube.

In the event of the portion of the ileum, between the incarceration and the cæcum, being too short for the application of Dr. Abbé's rings of usual size I think the application of a catgut ring, made after Dr. Abbé's plan, small enough to fit the calibre of the upper segment of intestine, and one of similar size placed within the cæcum, would do better than an effort to place the rings within a limited space.

PILOCARPINE IN PNEUMONIA—A SUGGESTION.

By L. B. TUCKERMAN, M.D.,

CLEVELAND, O.

Up to the present season the internal treatment on which I have chiefly relied in pneumonia has been morphine, tartar emetic, and tincture of aconite ($\frac{1}{60}$ to $\frac{1}{30}$ gr. each of the two former, and ½ to 1 minim of the latter hourly) during the earlier stages, and in the later stages full doses of iodide of potassium—from one to two grains an hour—to promote resolution and support the flagging heart. The latter feature of this treatment was, I believe, first advocated by the late Professor Palmer, of Michigan University. Up to the present season I have been well satisfied with the results of this treatment. This year, however, in the pneumonia following grip, patients have seemed to respond less promptly than formerly to it. Early last winter, Dr. P. H. Sawyer, of this city, related a case to me where favorable results had immediately followed the hypodermatic injection of $\frac{1}{10}$ gr. of muriate of pilocarpine in a congestion of the lungs suddenly supervening in typhoid fever, and which promised to be rapidly fatal. Prompt diaphoresis ensued, breathing became

less labored, in a few hours all signs of the congestion had disappeared, and the patient had an uninterrupted recovery. Profiting by his suggestion, I have been giving pilocarpine regularly for the last four months in connection with the morphine, aconite, and tartar emetic as above mentioned, and find that it softens the cough, allays the dyspnœa, and promotes resolution better than any drug I have heretofore tried. The doses used have been from $\frac{1}{15}$ to $\frac{1}{30}$ of a grain hourly, or in urgent cases $\frac{1}{10}$ to $\frac{1}{4}$ grain hypodermatically in combination with $\frac{1}{60}$ to $\frac{1}{30}$ of a grain of strychnine to guard against too great a depressant action. The good result is probably attributable not only to the prompt relief given to the congested viscera by the dilatation of the arterioles, but also to the fact that pilocarpine powerfully stimulates the excretory functions of the skin and liver, thus tending to free the system from certain toxic products of disease. Without its use I am confident that at least four of my cases which have recovered would have proved fatal. Though early employed, and with good results, in chronic bronchitis with asthma, I am not aware that it has hitherto been used to any extent in acute pneumonia. Of course, the limited number of cases occurring in the practice of a general practitioner, can hardly be claimed to prove anything. The coefficient of error is too large altogether, but the favorable results which have followed its use in pneumonia in the hands of more than one physician in this city certainly warrant a thorough test of its merits by the medical profession at large.

A CASE OF PRIMARY DISLOCATION AT THE ANKLE.

By J. L. BABCOCK, M.D.,
ITHACA, N. Y.

On September 22, 1890, C. S——, a mason, was at work at the top of a tower, which at that time was about seventy feet high. The only means of ascent and descent were furnished by a rough elevator, such as is commonly used in building operations. After the load of brick or stone was taken off the platform of this elevator it was usually allowed to come down "by the run." S—— stepped upon this platform on the morning in question, and neglected to give the signal to the engineer below that the "float" was coming down loaded. The engineer in the meantime had thrown off the brake from the drum, around which the cable was wound, so that the man came down the elevator shaft with great speed. Of course the rapidity and force of his descent were very materially checked by the friction of the drum and the two pulley-wheels over which the cable passed, but he received a violent shock when the elevator struck the ground at the foot of the tower. The man was standing on the little platform with the right foot in advance of the left, in which position the former foot would be in plantar flexion.

The sudden checking of his fall gave his body a strong downward impulse, and thus were presented the conditions necessary for the production of a rare injury. The result of this sudden downward pressure brought to bear upon the foot in plantar flexion was the forcing forward and downward of the tibia and fibula without fracture, thus forming an uncomplicated or primary dislocation at the ankle. Dislocations complicating Pott's or other fractures in this region are very common, but the uncomplicated form of the injury is very unusual.

Dr. Moore, in the article on "Dislocations," in the "Reference Handbook," says: "This form of luxation is an exceedingly rare one, and the different cases often vary much in degree."

Professor Stimson, in his "Treatise on Dislocations" (p. 510), says: "Examples of pure primary dislocations are rare. Malgaigne could find only eighteen reported cases."

The man's foot presented a very striking appearance. It was firmly held in extreme plantar flexion, and was apparently much elongated backward. The ends of the tibia and fibula formed a distinct rounded protuberance, over which the skin was very tightly drawn, immediately over the tarso metatarsal articulations. The two bones had been displaced forward entirely beyond the astragalus.

The injured man was a very muscular fellow, and the spasm was so great that no reduction could be effected until he was anæsthetized, when the foot was very easily replaced. The ankle was tightly packed in a fracture-box for a day or two, and then in a plaster-of-Paris splint. The man left town on October 4th. I saw him on October 27th, walking comfortably, without a limp, with the assistance of a light cane. He had discarded his splint about two weeks before that time, and now had full, unrestricted use of the ankle, which, in consideration of the fact that the joint had been completely disorganized about a month before, surprised me and cast some discredit upon the prognosis that I had made at that time.

AN EPIDEMIC OF PNEUMONIA AND THE CALOMEL TREATMENT OF THE DISEASE.

By WILLIAM R. FISHER, M.D.,
HOBOKEN, N. J.

During a recent visit to the Adirondacks I was afforded an opportunity to see some cases with Dr. E. T. Strong, of Elizabethtown, Essex County, N. J., which presented certain interesting features.

The family among whom the cases occurred live in an isolated farm-house upon a mountain side, at least twelve hundred feet above tide water. Their water-supply is carried in wooden pipes from a spring some distance above any human habitation. The cellar and surroundings of the house were carefully investigated and, although not in a strictly sanitary condition, were in no wise more uncleanly than other places of their class. There were no accumulations of filth or decomposing animal or vegetable matter.

Doctor Strong gave me the following history:

On March 5th he was called to see two babies at this house, one aged ten months, and the other seven months; both of whom appeared to be suffering from bronchitis. At the same time several of the adult members of the family were complaining of "colds."

March 6th.—The elder infant was progressing favorably, but the younger presented the symptoms of broncho-pneumonia

March 9th.—By this time out of fourteen inmates of the house nine were more or less sick, either with the usual malaise, furred tongue, fever, and aching of the grippe, as presented in the epidemic of last winter, or with the more severe symptoms of bronchitis or pneumonia, as shown in the cases of the infants.

On the following day (March 11th), a lad of seventeen showed the signs of pneumonia on the right side, with a temperature of 104° F.

On March 13th, a boy aged fifteen was taken ill in the night. When visited in the morning (after having received a quarter of a grain of morphia and twelve grains of acetanilid, by advice of another physician) he had a temperature of 105.2° F., and the usual signs of pneumonia on the left side.

On March 15th, a girl, aged eight, was attacked in the same way, making the fourth case of pneumonia in the same family within ten days. The latter two cases I examined with Dr. Strong; and I also saw the rapid improvement which followed his treatment. It is to this that I desire to call attention.

The cases were all treated by large doses of calomel, repeated every three hours until four, five, or six doses were taken. The baby of seven months received in all four ten-grain powders. The second case (seventeen

years old) received one hundred and twenty grains in six powders. The third and fourth cases (fifteen and eight years of age) each received a hundred grains in five doses.

There was no hypercatharsis nor undue depression in any case, but relief followed immediately in every instance upon the use of the remedy, and the improvement continued without relapse up to complete recovery.

To those who are inclined to be sceptical, it may seem sufficient to say that these cases took place in young and vigorous subjects who might be expected to recover from pneumonia, even after such an old fashioned heroic treatment.

I would refer such to a communication which Dr. Strong sent to the MEDICAL RECORD in 1889 (p. 291, March 16th), and would also state that he has now treated some forty cases of various ages by this method, with results which have been far more satisfactory to him than those which he was accustomed to obtain by the plan of treatment which is in general use.

KOCH'S LYMPH IN FLORIDA.

By HORACE CAMTHEY, M.D.,

TARRYTOWN, N. Y.

THAT climate has much to do in the treatment of tuberculosis with Koch's lymph, all must admit who are interested in the success of the wonderful discovery, and who have kept posted with the history of its use in different parts of this country. While reading the reports in the RECORD of those who have been testing its value, I witnessed day after day the improvement of a number of patients in Alicea Hospital, located at St. Augustine, Fla.

Early last fall, when the rush began toward Berlin, Dr. F. F. Smith, of St. Augustine, joined the caravan, repaired to Berlin, met Dr. Koch and several of his assistants, studied their methods, and treated a number of patients, spending six weeks or more in perfecting himself in all the minute details in the use of the lymph. On his return, in January, 1891, he at once began the treatment in the hospital built by Mr. H. M. Flagler, and now under the management of a committee of ladies to whom Mr. Flagler presented it.

The first case receiving treatment was from Georgia. When admitted the patient was emaciated to a very low degree; cough so bad that neither could he sleep nor his companions about him; night-sweats — in short all the signs of consumption. Examination of his sputa which were profuse, revealed, under the microscope, the bacilli in great numbers. No cavity could be detected.

From the first this man began to improve. Cough diminished, the sweats ceased, and the bacilli daily grew less, and in two months the man gained eighteen pounds, said he felt as well as he ever did, and was preparing to return to his home.

The second case was no less successful in all points.

The third was one so far gone, that all who examined him pronounced his condition unfit for the lymph. There were one or more cavities in the lungs, and the sputum was loaded with bacilli. Notwithstanding the unfavorable opinion of the doctors the subject pleaded to be treated, taking the responsibility of failure.

He improved slowly at first, and for a time the treatment seemed an utter failure, but after determined perseverance just a ray of hope appeared, which was carefully nursed until there was decided improvement in all his symptoms, the man gaining ten pounds in weight in little over two months.

Of the fourteen or fifteen patients under treatment, improvement commenced at once. There was but one case of consumption which it seemed that no human skill could reach, but the plucky young man begged to be treated and declared he was improving; but I fear it was a delusion so kindly vouchsafed in this distressing disease.

The most marked case of the efficacy of Koch's remedy was visible from day to day in a case of lupus of the upper lip, which had been entirely eaten away. The subject, a man over fifty, the disease of five years' standing, gave signs of improvement after the severest symptomatic effect of the lymph that I witnessed. Pulse ran up rapidly, with high temperature, and severe fever for several days. The poor fellow thought he was poisoned and gave up all hope.

Having witnessed, from the first of January, the treatment of these various cases, I felt it was due to the distinguished author of the lymph to make this statement, feeling assured that the profession would be glad to know of its success, notwithstanding the adverse reports from many parts of our country.

TWO CASES OF IMAGINARY POISONING.

By BERNARD GORDON, M.D.,

CLINICAL ASSISTANT IN DEPARTMENT OF SURGERY, NEW YORK POST-GRADUATE MEDICAL SCHOOL.

CASE I.—November 30, 1890, I was called to Mrs. S——; she was suffering from acute metritis, which was produced by the unskilful and rough manipulations of an ignorant midwife, who treated her for sterility. Having prescribed quinine for the fever, and having ordered hot vaginal injections with sublimate tablets, and the application of hot linseed poultices to the abdomen, I departed. The next morning I was called there to come immediately, the husband of Mrs. S—— poisoned himself with a tablet. On arriving I was surprised to find Mr. S—— without any symptoms of mercurial poisoning: he looked simply pale and frightened; but on inspecting the tablets, I understood that the druggist gave, instead of sublimate 7-3 gr., some other tablets. I went at once to the druggist, and found out that he dispensed hydronaphthol tablets, 1 grain in each; he was sorry for his mistake, but he blamed the apothecary in the neighborhood, who sold them to him also by mistake, instead of sublimate tablets. We can arrive at the following two conclusions: first, that Mr. S—— had extraordinary luck in escaping death, and second, that the druggists were very careless. I think this is the only useful error a druggist ever made, and therefore worthy of report.

CASE II.—April 27, 1891, I was called in a special hurry to Mr. H——; his wife, I was told, poisoned herself. Arriving there I found Mrs. H—— fainting, being supported by her husband and servant. I examined at once her pulse and found it normal. I applied then a few drops of strong aqua ammoniæ on a handkerchief to her nose, and she opened her eyes, began to breathe deeply, and all at once became red in the face and started vomiting. I inquired what poison she took, but nobody except herself knew, and she did not answer. The husband meanwhile explained to me that his wife quarrelled with him at the dinner-table, and when he went away to his store she took some poison; he just arrived before me and gave her plenty of warm water to produce vomiting. "What poison did you take?" I inquired again of Mrs H——, when she stopped vomiting after she had swallowed a few pieces of ice. "A teaspoonful of sulphur!" she answered. I asked her how she came upon the idea of taking sulphur, and she explained to me, that she decided to poison herself by soaking matches in water and then drinking it, but being aware of the fact that matches are made of sulphur, she rather took sulphur, in order to end her life more quickly and without suffering. Blessed ignorance! If she had known a little more than that, the druggist might just as well have sold her five cents worth of phosphorus, instead of the sulphur.

109 HENRY STREET.

Professor Angerer, of Munich, has been appointed professor of surgery in the university, to succeed Nussbaum.

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & Co., Nos. 56 and 58 Lafayette Place.

New York, June 6, 1891.

THE VENOUS HUM.

IT has been the custom to teach that a venous hum heard in the neck is an indication of anæmia. Nearly all systematic writers have taught this, although there have been some notable exceptions, like Dr. Hilton Fagge. Recently Dr. R. Apetz investigated the venous hum in six hundred persons, and came to the conclusion that it was of no value whatever as a symptom of anæmia. Dr. Henry T. Bewley (*British Medical Journal*) has examined 200 persons between the ages of sixteen and twenty-six in order to determine the significance of the murmur. Of these 22 belonged to the anæmic class, 31 were slightly anæmic, and 147 were not anæmic. He found that in the 22 anæmic there were 19 murmurs, = 86.4 per cent.; in the 31 slightly anæmic, 27 murmurs, = 87.1 per cent.; in the 147 not anæmic, 85 murmurs, = 57.9 per cent. Dividing the not anæmics into males and females, there were in 104 not anæmic females, 64 murmurs, = 61.5 per cent.; in 43 not anæmic males, 21 murmurs, = 48.8 per cent., that is, not a very great difference. It was noted in each case whether the murmur was loud or not.

Dr. Bewley met with in all 15 excessively loud or roaring murmurs. In 22 anæmic, 3 loud murmurs, = 13.6 per cent.; in 31 slightly anæmic, 5 loud murmurs, = 16.1 per cent.; in 147 not anæmic, 7 loud murmurs, = 4.8 per cent.

The conclusions are the following: 1. Venous murmurs are more common in anæmia than in other conditions. 2. They are present in about fifty per cent. of not anæmic young persons of both sexes. 3. Hence it follows that their presence in any individual case is not a matter of any diagnostic importance whatever. 4. Even the loudest murmurs are not peculiar to anæmia (though more frequent in that condition), and are therefore of but little, if any, importance. I noticed some of the loudest murmurs in very rosy, full-blooded individuals.

While we are not disposed to question seriously these conclusions, it will be necessary to decide by careful counting of the blood-cells and measurement of the hæmoglobin whether persons are anæmic or not. The rough-and-ready method of determining by the general appearance alone will not satisfy the demands of scientific accuracy.

A NEW MORBID HABIT.

IT is the inhalation of tobacco-smoke. Our readers may not agree that it is new, but in the sense that it has become of late years enormously prevalent and a peril that now first confronts society, it may be so considered. Ten years ago only about four hundred million cigarettes were manufactured in this country yearly; now the number reaches into the billions. The cigarette-habit has extended and affected all ages; even the boys smoke more than ever, despite legislation. It is not, however, the cigarette smoked in the ordinary fashion that does harm; it is the inhalation of the smoke. This introduces quickly and delightfully a narcotic poison into the system, and awakens in the *habitue* a sensation as delightful as that produced by opium. The old cigarette-smoker would not exchange a few deep whiffs of his cheap cigarette for the finest Havana that could be bought with gold. It is an intoxication in which he revels and to which he becomes a slave. He is a "cigarette-fiend." He admits it, and smiles over it for a time.

The seriousness of the cigarette to inhalation lies not alone in the fact that it involves a steady absorption of poison; but in the utter hopelessness of the habit, and the entire inability of the indulger to give it up. Once a cigarette-inhaler, always one. In this respect it resembles with painful similarity the opium-habit, to which it has many points of resemblance. One may stop the use of the pipe, or cigar, or the use of tea, or beer, or whiskey, but the morphine and tobacco-inhalation habits, if well established, are practically incurable. The patient may stop for months, or even a year, but he invariably returns to his love. Such is the experience of the writer, corroborated by the testimony of other physicians.

Tobacco-smoke contains aqueous vapor, carbon soot, nicotine, traces of certain organic acids and of such hydrocarbons as creasote, and of products of the aniline series, such as pyridine. It is the nicotine, however, which probably does the harm.

THE MALE NURSE.

THE *Nightingale* discusses in a recent issue the subject of male nurses, *à propos* of the recent graduation of trained male nurses at the school in this city. The *Nightingale* speaks kindly of the male nurse, a fact which would indicate a charity broader than its experience, were it not that its observations bore mainly on the male nurse of the future. Certainly, the average male nurse of the past has been an object of wonder and sorrow for gods and men.

He was a man, in the first place, rather hard to find; if found, it was hard to catch him sober, and if sober, still harder to catch him telling the truth. The male private nurse of bygone days, as we trust, was also rather more expensive than a yacht or opera stock, having in this point, however, the single point of usefulness that he made the doctor's bill appear trivial and even contemptible by comparison.

The male nurse did not get employment every day in the year, and when he got a good thing he knew it. After a few golden weeks, his patient being dead, or, by special providence, well and out again, the nurse would "blow

in " his earnings in a manner delightful to himself and the dispensers of things bibulous.

We are not denying that there were good male nurses in these same olden days, but metropolitan experience has taught that, on the whole, the old Sarah Gamp type of female nurse would not make what is popularly known as " a patch " upon the male specimen. We rejoice that better times have come and that the *Nightingale*, as a representative of the evoluted lady nurse, speaks well of them. One complaint only is uttered, and that is to the effect that men are paid $35 to $40 a week, while women, for the same service, get only $20 or $21.

There seems to be some justice in this complaint. But it is very probable that the men will eventually have to reduce their price as their numbers increase and compe tition becomes keener. Most families, at least, will take a female nurse when possible as long as so great a difference exists.

OUR CORONER SYSTEM.

To be a coroner in this town it is not necessary to be a physician, but to be a politician. Of the four coroners at present only one is, we believe, a medical man. Each coroner has a deputy, however, and this deputy must be a physician. It is not necessary to be a good physician in order to be a deputy, although some of our deputies are able men. But it is necessary to be a good Tammany man.

Our coroner system is a vicious one, though it is better than it used to be. There have been many attempts to change it, but it is unhappily fixed by a constitutional provision, and the gentlemen of this city interested in medico-legal matters are so hopelessly divided among themselves that systematic and persistent attempts at reform seem impossible. We live in expectation, however, that some day the New York Medico-Legal Society and the New York Society of Medical Jurisprudence will amalgamate, and then united efforts to promote medico-legal science may be undertaken. One of the first things to happen in this millennial time will be the death of our present antiquated, political coroner system.

PHYSICIANS AND PERCENTAGES ON PRESCRIPTIONS.

In his presidential address, delivered by Dr. W. R. Cluness, of Sacramento, before the California State Medical Society, in April last, the result of a very laborious investigation into the subject of percentages on prescriptions is dealt with. Dr. Cluness has made numerous inquiries regarding this practice all over the country, and finds it extraordinarily prevalent. Among 106 large towns and cities, the practice was known to exist in 67 and suspected in 39.

It seems to be extremely and scandalously prevalent in San Francisco. One physician of that place writes :

" I have been repeatedly approached by them (apothecaries), and commissions ranging from thirty to seventy-five per cent. have been offered ; indeed, many druggists openly maintain that they can afford, and in fact do give physicians all the receipts of the first prescriptions, contenting themselves with what they call ' the repeats.' . . . In order not to have patients go to another drug store, one druggist has envelopes which are given to the physician, who seals the prescription in the envelope ; another apothecary has prescriptions telephoned to him directly from the doctor's office, and pays for the rental of the telephone. I had one patient tell me that his drug bill was larger than his physician's bill (of course, while under another physician's care)."

There are now two San Francisco druggists who announce a revolt from the system by conspicuous placards, one of which reads : " People's Drug Store ; No Commission Paid to Physicians on Prescriptions ; " and another bears the legend : " No Percentage Drug Store."

We have no doubt that the percentage system exists in this city, though probably not to such an extent as in some other places.

The practice is simply and unqualifiedly a dishonest one, unless the patient is told of it ; and naturally this rarely occurs. But besides being dishonest and degrading, it leads to unnecessary and injurious medication. No physician can systematically avoid the tendency to prescribe medicine freely if he knows it will thereby increase his income. Human nature is too weak and the financial stringency of the physician too strong.

Dr. Cluness has done a service in calling attention to an evil which is evidently wide-spread and serious, and one to which it would be well for medical societies to pay some attention. Doubtless many physicians have fallen into the percentage habit without much thought of the morals of it, or perhaps simply because others do it. A plain presentation of the facts, we believe, will lead every honest man to give up the practice.

AN UNJUST SENTENCE.

For striking a patient suffering from delirium tremens who spat upon him a nurse in this city has just been sentenced to two years and eight months' imprisonment.

We quite agree with sentiments expressed in other journals, that this was a grossly unjust sentence. The nurse was no doubt to blame, but the aggravation was great, and those who are familiar with the character of persons who periodically frequent the alcoholic wards of our large city hospitals will understand that such persons have sometimes to be dealt with sternly. The city policeman who clubs an unfortunate " drunk " into unconsciousness escapes without even a reprimand, but the nurse who does not have a political " pull " is degraded and punished as if he were a felon for a moment's loss of self-control.

The nurse has been punished enough, and ought to be pardoned.

AN IMPORTANT MEDICAL REFORM.

It is reported on good authority that the University Medical College of this city will hereafter abandon in large measure the didactic lecture and teach its students by recitation. Such a change, if made, will be the most important and radical improvement in the system of medical teaching that has been undertaken for many a day. We have long argued in favor of abolishing the didactic lecture, as being an absurd relic of an ancient and effete system of instruction. There has never been any valid defence offered in its favor, except that the recitation

method is more laborious, more expensive, and one which, perhaps, adds less dignity to the professorial chair. Such things, however, are not to be considered in searching for the best method of teaching. It is the student's good which must first be looked after, and it is by the drilling and marking of the recitation that this good is best obtained. We are very glad to note the progressiveness shown by the University Medical School.

FOUR YEARS' MEDICAL COURSES.

The proposed establishment of a four years' graded course at the Harvard Medical School and at the University Medical College of Pennsylvania, marks another important stride in the direction of furnishing thorough medical education in this country. There can be no doubt whatever that four years is none too short a time to acquire medical knowledge and skill sufficient to practise our art in its best manner. In three years one can by diligence master the rudiments; but at least another year is necessary to acquire the technical skill necessary to do routine work in the specialties.

At present Boston and Philadelphia promise soon to be ahead of New York in advanced educational methods. But we trust that this will not long be the case. Columbia College is rich, and the University of the City of New York is likely soon to become so. We trust that these two institutions will not be lagging in the race. Bellevue Hospital Medical College is also alert and resourceful. It will not allow its rivals to pass it in efforts at advancing medical education.

IMMIGRANTS AND DISEASE.

The lunatics and diseased persons sent back to Europe from the State of New York during the last seven years numbered, in all, 1,374. The New York *Times* has compiled an interesting table showing the condition of those "returned with thanks." It is as follows:

	1884.	1885.	1886.	1887.	1888.	1889.	1890.
Total number	114	152	175	216	323	229	165
Lunatics	11	10	19	25	14	10	8
Imbeciles	19	21	24	26	26	6	7
Feeble-minded	34	78	33	52	91	62	33
Vagrant and Diseased	7	13	18	27	87	42	29
Decrepit	8	5	23	10	29	31	19
Cripples	9	9	8	21	13	12	15
Blind	3	2	3	8	4	5	..
Epileptic	2	1	9	7	8	8	5
Paralytic	2	1	..	5	3	3	3
Deaf-mutes	1	..	..	3	..	..	..
Otherwise infirm	18	12	38	32	48	50	46

Medical men have occasion to know that but a small percentage of the diseased and dependent classes are returned to their homes. One-third of our insane are foreign-born, as is also over one half of our dispensary and hospital population.

By far the largest proportion of this useless and expensive increment comes from Germany, Austro-Hungary, and Poland, though Russia and Italy have of late been greatly increasing their quota. Immigration furnishes physicians a rich field for pathological study, but it is unremunerative to the profession and expensive to the community.

THE PRESCRIPTION OF IRON IN ANÆMIA.

There is no drug in the Pharmacopœia which is given more than iron, or in as many forms. The list includes bromides, iodides, sulphates, carbonates, chlorides, phosphates, pomates, citrates, malates, peptonates, albuminates, with many others. The favorite forms are no doubt the carbonate, the chloride, and organic salt, like the citrate. The question sometimes arises whether it, after all, makes any difference.

Another point on which there is great variance is the dose. It is shown by physiologists that the blood of the human body contains only about a drachm of iron altogether, and hence it might be inferred that a grain or so daily ought to supply any deficiency. Yet there is a feeling among many physicians that very large doses ought to be given.

A shock will doubtless be given to the profession by the following letter of Dr. T. Clifford Allbutt (*British Medical Journal*), who attacks that idol of the ferrous therapeutist, the Blaud pill. Dr. Allbutt says: "In his interesting articles on anæmia, Dr. Stephen Mackenzie discusses with some care and anxiety the proportions of alkali to be combined with sulphate of iron in Blaud's pill. Let me assure Dr. Mackenzie and your readers that these proportions are of no importance whatever, and that the alkali may be omitted without therapeutical loss, and with much practical convenience.

"For the last five years of my practice I ceased entirely to use the alkali, and my results were equally good. The mistakes and failures in treating adolescent and chlorotic anæmias are often due to the prevailing economy in the use of the iron. With five or even ten-grain doses of citrate of iron little real progress may be made in many cases. No form of iron is so efficient as the sulphate, of which gr. j. thrice daily is to be given for a week, then two grain doses for ten days, and so on till nine, or even twelve, grains are taken in the day. The drug should be gradually reduced in like manner, and the course should never be less than three months in duration, or relapses may occur. In obstinate cases the addition of one-thirtieth grain of strychnine, or one-quarter grain of phosphide of zinc are invaluable aids. Most patients require the inclusion of one-third to one fourth grain of extract of aloes to prevent the constipating effect of the sulphate, but Dr. Mackenzie rightly denies that constipation is the cause of chlorosis, or even generally coincident with it. This error is due to reasoning from an insufficient number of careful records.

"Iron pills should be carefully made from the dried sulphate, and not with gums, which by hardening make the pills insoluble. In any case it is better to order the pills to be freshly made every week, if not even more frequently. Patients who are unable to take pills are best treated with the saccharated carbonate of iron, of which three or four large teaspoonfuls may be given in the day."

Some Time Ago the Russian Government forbade women to attend medical lectures at the universities. The Government is now, however, preparing to establish a Female Medical Institute, where women can learn medicine by themselves.

News of the Week.

The Hospital Graduates' Club held its sixth anniversary dinner at the "Arena," on the evening of May 28th. Dr. James E. Newcomb, Vice-President of the Club, presided in the absence of the President, Dr. Henry. Speeches were made by Drs. Newcomb, D. B. St. John Roosa, E. L. Keyes, E. M. Culver, Frank P. Foster, D. Bryson Delavan, and T. R. Pooley. The speakers dealt largely with reminiscences of their hospital life, and narrated many amusing anecdotes of the great lights of former days. Some needed reforms in hospital management were touched upon, and especial emphasis was laid upon the necessity of giving to medical men a representation upon the governing boards, so that they might have a voice in the management of the hospitals which they served. The members of the Club, as representative hospital men who knew by experience the evils so often attending lay interference in strictly medical matters, were urged to throw the weight of their influence on the side of this necessary reform. About seventy five of the members of the Club and invited guests sat down to the table, and when they rose it was with the conviction that this had been one of the most successful and in every way enjoyable medical reunions of the year.

For Victims of Opium, Chloral, and Cocaine.—Brooklyn is soon to have a home for victims of the opium, chloral, and cocaine habit. A site for the proposed new institution has been secured in Brooklyn Avenue, Park and Prospect Places, and the plans for the building have been approved. The building will cost about $100,000, and will be completed before the close of the year. One-quarter of the capacity of the home will be reserved for poor patients, and an endowment fund of $60,000 is at present being raised to provide for their care. The institution will be under the immediate charge of Dr. J. B. Mattison. The Board of Directors includes the Rev. Dr. Charles C. Hall, the Rev. Dr. R. R. Meredeth, Dr. J. O. Wilson, Dr. A. J. C. Skene, the Rev. Dr. Charles H. Hall, Dr. John C. Shaw, Gen. C. F. Christensen, Dr. Allan McLane Hamilton, and Dr. George F. Shrady.

A Case of Heteradelphia.—Professor Virchow showed before the Medical Society an adult Indian who bore upon his breast a complete twin. The malformation was of the kind when one child does not arrive at full development and had a sort of parasitic relationship to the other, it was dependent on it as regarded circulation. It represented one of the forms of acardiacia, for there was no doubt that no heart was present in the second child, there was therefore only a single motor cardiac force. In the collection in the Pathological Institute there was a similar preparation which represented a perfect reproduction of the one shown. That preparation was subjected to the most careful anatomical examination by Rudolphi, and was skilfully sewn together again. It was particularly shown that the whole of the parts were dependent on an arterial connection which sprang from the left sub-clavicular. It was readily seen that with such relations the circulation could not be very favorable, and when such a parasite was exposed to the air for a long time it cooled very quickly; the hands and feet became stiff and the circulation fell. It was remarkable that in all these cases of heteradelphia the head of the parasite was absent, also the vertebral column with the spinal cord, the nervous system generally, and that only the external parts were present. The whole sensitive innervation of the parasite was dependent on the main body, and that was one of the most remarkable things with this heteradelphia, by which it differed strikingly from other forms of duplicity. The parasite had no anus, but it had a pair of nates with a furrow between them, but it was imperforate. There was also a penis, regularly perforated, that from time to time passed urine, but there were two urinary apparatus there. Sensibility at this spot was dull, the man said he could not feel distinctly when urine came out of the penis.—*Medical Press.*

Resignation of Dr. Francis Minot.—Dr. Francis Minot has resigned the Hersey Professorship of the Theory and Practice of Medicine at the Harvard Medical School.

Four Years' Course at the Harvard Medical School.—The faculty of the Harvard Medical School, at their last meeting, voted that with the class entering in September, 1892, the regular course necessary to obtain the degree of M.D. shall be four years.

A New Medical Governor.—M. Lanessan, the recently appointed Governor-General of Tonkin, is, like many more of the public men of France, a member of the medical profession. He was member of parliament for one of the constituencies of Paris in the present Chamber of Deputies, resigning this distinction on his new appointment. He was formerly a surgeon in the French Navy, and a diligent student of natural science, in which section he was a past Assistant Professor in the Paris Faculty of Medicine.

An Obstetrician's Liberality.—Professor Tarnier, the celebrated French obstetrician, has given a practical expression to his grief at the diminishing natality of his race, and has promised one hundred francs to every family at Arc sur-Fille, the village which had the honor of giving him birth, which shall have contributed an infant to the population of France during the year 1892. This is a novel way of inducing married people to fulfil their *rôle* in nature, but they cannot complain of not having had sufficient notice.

The Journal of Gynecology.—A monthly journal of gynecology, obstetrics, and abdominal surgery has just appeared, edited by Dr. Charles N. Smith, Toledo, O.

Dr. E. P. Bailey died at Marlborough, Ulster County, N. Y., on May 24th, of Bright's disease, aged seventy-three.

The Oldest Surgeon in the world is Mr. William Salmon, of Prullyne Court, Cowbridge, Glamorganshire, who has just attained his one hundred and first birthday. Mr. Salmon is a member of the Royal College of Surgeons. He was born March 16, 1790.

An Italian Pharmacopœia is about to be published. This will be the first national formulary, those hitherto in use having been of the most varied description, consisting largely of more or less correct translations of French formularies, and having no general or official recognition.

Hospital in Natick, Mass.—A will which leaves the town of Natick $150,000 for a hospital has been sustained in the lower court, but will be appealed to the Supreme Court.

Crystallized Chloroform.—The Swiss physicist, Raoul Pictet, has discovered a method of preparing crystallized chloroform for commercial use. Kept in this form it cannot undergo any changes or contain any impurities.

Professor Tyndall on His Thrombosis and Dr. Holmes on His Failing Senses.—Professor Tyndall writes to *The Times:* "Gout is a 'demon multifaced,' and it may be that I am suffering from gout. But the accurate description of the matter is this: The pulse of the right foot beats normally, which indicates a free passage through the arteries, but the right limb is swollen throughout, indicating that its deeper veins are blocked in a manner well known to physicians. With regard to the restoration of the return current, all is uncertain, but under the most favorable circumstances it will require six weeks of absolute quiet to restore the normal condition of things." Dr. Holmes, in declining an invitation to a Unitarian festival, writes: "My senses, if not my wit, have paid their tribute to time. I am not, it is true, the blind mendicant for whom, according to the veracious penny-a-liner, our good Dr. Peabody took me when he threw the quarter of a dollar into my hat. But they that look out at the windows begin to feel as if the windows wanted washing, to say the least. I could not see all the bright faces quite so clearly as I could before the big units had climbed up the back of my decades. I could not hear the lively sayings quite so well as I could before my locks went unanimously for unlimited silver coinage. So you must allow me to wait and read in the morning papers of all that you say and do, and in the meantime accept my cordial wishes for the success and enjoyment of the meeting and the welfare and long-continued prosperity of the association. Believe me, yours very truly, Oliver Wendell Holmes."

The Journal of the American Medical Association.—At a meeting of the trustees, May 13th, Dr. G. C. Culbertson, editor of the *Cincinnati Lancet and Clinic* was appointed editor of the *Journal.*

Medicine and Theology.—The *Journal of the American Medical Association* quotes the comment of a noted college president, that medical men are becoming more skeptical and dangerous to the growth of ethical truth. In reality, says the *Journal*, this is the exact opposite of the facts. Statistics will show that more physicians are both active and passive church members than ever before. In every town and city in the country medical men will be found actively supporting almost every Christian and philanthropic movement for the elevation of the people. The real students of all the writings of Darwin, Huxley, Spencer, and others, will never be skeptics or obstructionists to ethical truth. The half-learned are the only dangerous men.

Epidemic of Typhoid.—Carroll County, O., is overwhelmed with a severe type of typhoid fever. Physicians from neighboring counties were called on for assistance, the local doctors being unable to care for all the cases properly.

To be Tried Under the Code.—A San Francisco physician, member of the San Francisco County Medical Society, read a paper before that body, and the following day extensive abstracts of his contribution appeared in the daily public press, presumably with his knowledge, consent, and assistance. Charges were promptly brought against him for a violation of the Code of Ethics, and his trial was set for an early date.

Diuretin is the name of the latest German synthetic preparation brought before the therapeutic world. It is a natro-salicylate of theobromine, and, as its name would indicate, is recommended as a powerful diuretic.

The Maine Medical Association.—The thirty-ninth annual meeting of this Society will be held at Portland, Me., Tuesday, Wednesday, and Thursday, June 9, 10, and 11, 1891. Attention is called to the rule of the Association, that papers which exceed twenty minutes in the reading, must be presented either in abstract or by extracts. Members who desire to offer voluntary papers or reports of cases are requested to communicate by letter or in person with Dr. F. E. Small, 359 Congress Street, or Dr. W. L. Dana, 660 Congress Street, Business Committee.

Dr. William S. Thompson, one of the oldest and most successful physicians of Maryland, died at his home, "Weymouth," about one mile north of Warren, Md., on the afternoon of May 14th, aged seventy-six years. He had been in failing health for several years, but it was only within a comparatively short time that he had relinquished active practice. Dr. Thompson was a native of Paterson, N. J. He graduated with high honors at the University of the State of New York in 1836, and located at Warren, Baltimore County, in 1844. Here he was in continuous practice up to within a very short time of his death, his entire professional life rounding out four years more than half a century. He was a strong Union man during the late war, and afterward a Republican, although he never took an active part in politics. He leaves a wife and four children—three sons and one daughter.

Dr. Joseph P. Logan, editor of the Atlanta *Medical and Surgical Journal*, died at Atlanta on June 2d. He was born in Botetourt County, Va., on November 9, 1821. Dr. Logan was a member of the Atlanta Academy of Medicine, of the Georgia Medical Association, and of the American Medical Association, and of the State Board of Health of Georgia.

St. Luke's Hospital and the House of Rest for Consumptives Consolidated.—The consolidation of St. Luke's Hospital and the House of Rest for Consumptives, at Tremont, went into effect on June 1st. The plan was ratified by the trustees of the two institutions two months ago, with the understanding that the hospital should maintain at least forty beds for the care of consumptive patients. There will be no material change in the staff or management of either institution.

Dr. S. Stocking died at his home in East Glastonbury, Conn., on Sunday, May 31st. During the war Dr. Stocking was surgeon of the Eighth Connecticut Volunteers, and was seriously wounded in one of the engagements.

The British Nurses' Association will hereafter bear the title of Royal, in obedience to a command of Her Majesty Queen Victoria.

Obituary.

FORDYCE BARKER, M.D., LL.D.,

NEW YORK.

Dr. Fordyce Barker died on Saturday, May 30th, of an apoplectic stroke. The seizure occurred on Thursday, and he remained partially conscious until Saturday morning.

He was born at Wilton, Me., May 2, 1818. He was graduated from Bowdoin College in 1837, and went to Boston, where he studied medicine with Dr. Henry I. Bowditch and with Dr Charles H. Stedman at the Chelsea Hospital. Afterward he studied in Edinburgh and Paris, and received the degree of M.D. in the latter city in 1861. In this country he began the practice of his profession at Norwich, Conn., in the following year. He made a specialty of obstetrics and women's diseases, and in 1845, when but twenty-seven years of age, he became Professor of Midwifery at the Bowdoin College Medical School. In 1850 he was elected to a similar post in the New York Medical College, and came to this city, where he had since lived. In 1852 he became attached to the staff of Bellevue Hospital, where he remained until 1874. In 1860 he also filled the position of Professor of Clinical Midwifery and Diseases of Women in Bellevue Hospital Medical College. In addition to the large private and consulting practice which Dr. Barker had, he was consulting physician to Bellevue, the Maternity, the Cancer, the Woman's, St. Elizabeth's, and the Children's Hospital.

Dr. Barker was a prominent member of many medical associations, chief among them being the New York Academy of Medicine, of which he was president from 1878 to 1884; the New York County Medical Society, the New York Obstetrical Society, the New York Pathological Society, the Medical Society of the State of New York, of which he was formerly president; the New York Medical and Surgical Society, and the American Gynecological Society, of which he was the first president, in 1876. He was also Honorary Fellow of the Royal Medical Society of Athens, and a member of the Obstetrical Societies of Edinburgh, London, Philadelphia, and Louisville, and of the Philadelphia College of Physicians. In his private practice, also, Dr. Barker was very widely known. He attended General Grant in his last illness, and was the family physician of many of the leading families in this city. Outside of his professional position, however, which was high, Dr. Barker was most popular as a man, and was universally regarded as a thoroughly lovable, refined, and noble character. He had cultivated musical tastes, and was a student and lover of literature. It was at his house that Dickens was a guest when he visited this country. Thackeray was also an acquaintance of Dr. Barker's.

To medical literature he contributed many valuable works in the way of papers, lectures, and articles published in medical magazines. He was the author of a work on the "Puerperal Diseases," of which several editions have appeared. This work was translated into Italian, and was published at Milan in 1875, and afterward made its appearance in French and German. He also published a work on "Seasickness," which has been widely known.

Several colleges have conferred honorary degrees on Dr. Barker. Bowdoin College, Edinburgh University, and Columbia College had all given him the degree of Doctor of Laws.

In personal appearance he was a remarkably fine-looking man, of tall and commanding figure. Since an attack of typhoid fever which he suffered abroad about five years ago, however, he had failed considerably. He was the son of a physician, Dr. John Barker. He married in 1844 Miss Elizabeth Le Dwight, who survives him. He leaves also one son, Fordyce D. Barker.

The death of Dr. Fordyce Barker removes from our midst one of the most honored and beloved of men. As an educated and cultured gentleman, he was a type we all delighted to respect and emulate. It is difficult to keep within the bounds of sober estimation of the good qualities which made up his well-rounded character, and still do justice to his merits as a friend, counsellor, and brother. His long and successful professional career was so free from spot or blemish that it can well serve as a model for careful imitation. From it may be learned the much needed lesson that the highest aims of human endeavor are best and most effectually realized in the good we can do to others. Dr. Barker was pre-eminently a man who served such a purpose, and the fact needs only be mentioned to be endorsed by everyone who knew him. The rare and estimable qualifications which fitted him for his wide sphere as a leader, not only in his profession, but with the public at large, are too well known to need reference. And while with sorrow we record the end of a life of singular usefulness, we are happy in the thought that it was spared to us up to the full allotment of three score years and ten.

Resolutions of the New York Obstetrical Society.—*Resolved*, That by the death of Dr. Barker the Obstetrical Society has sustained the loss of its oldest and most eminent Honorary Fellow, who, though prevented in recent years, by reason of his failing health, from taking an active part in its scientific work, always maintained a lively interest in its proceedings, and rejoiced in its prosperity.

Resolved, That the Fellows of this Society, recalling his numerous acts of kindness toward them individually, feel that when his great, warm heart ceased to beat they lost not only one who was the finest type of professional honor and dignity, but a long-tried personal friend.

Resolved, That they will cherish his memory as that of a wise physician and a chivalrous, high-toned gentleman, whose name will ever remain a synonym for all that is noblest and best in our profession.

Resolved, That we respectfully tender to the family of the deceased our sincere sympathy, and that copies of these resolutions be sent to them and published in the various medical journals. For the Society,

Thomas Addis Emmet, M.D.
William M. Polk, M.D.
Joseph E. Janvrin, M.D.
Henry C. Coe, M.D.

Resolutions of the Medical Board of the New York Maternity Hospital.—*Resolved*, That by the death of Dr. Fordyce Barker, Consulting Surgeon to the Hospital, we have met with the loss of a warm personal friend, as well as of a valued counsellor. Although unable, by reason of increasing infirmities, to take an active part in the work of the Hospital, his interest in its welfare, and in the branch of medicine in which he was so eminent, never abated. In common with the whole profession, we cherish his memory as that of a wise physician and a good man, who died full of years and honors.

By the Board,
Henry C. Coe, M.D., *Secretary*.

In Honor of the late Dr. Fordyce Barker, the Commissioners of Charities and Correction ordered that the entrance to Bellevue Hospital be draped for thirty days, and the flags be at half-mast. A memorial tablet was also authorized to be placed in the Hospital.

The Funeral Services of the late Dr. Fordyce Barker were held on June 2d, at St. Thomas's Church, and were very largely attended. The Fellows of the Academy of Medicine, and the members of the County Medical Society met at the Academy and marched in a body to the church. A delegation of students from Bellevue Hospital Medical College was also present. The pall bearers were Charles B. Hoffman, Clarence A. Seward, Frank V. Bond, D. H. Babcock, General George W. Cullum, W. H. Porter, Walter Langdon, and Judge Abraham R. Lawrence. The services were conducted by Bishop Potter, the Rev. Dr. Dix, and the Rev. Dr. Brown.

Society Reports.

American Medical Association.

FORTY-SECOND ANNUAL MEETING.

Held in Washington, D. C., Tuesday, Wednesday, Thursday, and Friday, May 5, 6, 7, and 8, 1891

(Continued from page 609.)

SECTION ON DISEASES OF CHILDREN.

THIRD DAY, THURSDAY, MAY 7TH.

No session of the section was held on Wednesday.

Necrosis of the Maxillæ, with a Report of Three Cases.—DR. W. B. JOHNSON, of Paterson, N. J., presented the paper. In this condition the inferior maxillæ is the affected part in sixty-five per cent. of the cases. The causes are periostitis, periodontitis, ostitis, and osteo dentitis, irritation, dentition poisons, exanthemata, traumatism, etc. There are four pathological stages—hyperæmia, hypertrophy, suppuration, and new formation. The treatment is to be applied with reference to the existing condition, and consists of active antiphlogistic measures, both local and general. Incision, if indicated, should be made early, and followed by the most perfect irrigation. The most rigid antisepsis with the removal of any dead bone as soon as detachable are essentials. And lastly, vigorous tonic and stimulating treatment should follow. The prognosis is good. The jaw movements generally remain perfect enough for all practical purposes. If new bone does not form the gap is filled in by hard fibrous tissue. We may necessarily remove some of the permanent teeth while in process of formation, and even if the latter do come in with good root structure, they decay later.

The Prophylaxis and Treatment of Diphtheria.—DR. J. LEWIS SMITH, of New York, read a paper on this subject. The room should be disinfected by adding to one quart of simmering water one to two fluid ounces of the following mixture:

℞. Oil of Eucalyptus..... ℥ j.
Carbolic acid..... ℥ j.
Turpentine q.s. ad..... ℥ vj. to ℥ viij.

Everything and every person not absolutely necessary for the comfort and management of the patient should be excluded from the sick room. Physicians undoubtedly conveyed the disease. They should always examine the fauces by standing behind or at the side of the patient so that no ejected mucus may come upon them. After each visit they should wash thoroughly, in a sublimate solution, hands, face, and beard. Walking cases without fever, anorexia, or malaise diffused the disease. Daily inspection of the fauces of school children had been proposed. Convalescents should not mingle with healthy children for four weeks. He admitted the full claim of the Klebs Loeffler bacillus to be the cause of the disease. It was a surface microbe—never penetrating the interior of the body, but attacking only mucous surfaces or cutaneous abrasions. It produces a ptomaine containing carbon, hydrogen, azote, sulphur, and oxygen, which by absorption through both blood and lymph channels causes the nephritis-granulo-fatty degeneration of heart muscle and paralysis.

The treatment should embrace hygiene, diet, and alcohol. Rectal alimentation could be followed for a time. Failure of appetite rendered the outcome doubtful. Diet could embrace milk with sarco-peptones, beef tea, or meat juice, and the various predigested compounds. Large and frequent doses of alcohol were positively necessary. It is quickly eliminated and often will save life unless blood-poisoning has actually set in. In the proportion of one to five it has been shown to have a destructive action on the growth of the bacillus.

Locally we should remember that normal epithelium was a barrier to the germ's entrance, and hence our remedies should be such as not to destroy the epithelial covering. Denuded or diseased surfaces were favorable starting-points for the disease. Corrosive sublimate, 1 to 8000; carbolic acid, 1 to 50; salicylic acid, 1 to 80, had proven of service in arresting the germ growth. Potassic chlorate was useless in this direction, and he had come to discard its internal employment entirely. It had undoubtedly caused nephritis in many cases. The corrosive sublimate could be given by nasal injection, gargling, and internally. Where the false membrane was very thick and tenacious equal parts of tincture of iron and glycerine should be given three or four times a day. Loeffler himself uses a mixture of carbolic acid, alcohol, and distilled water for the mouth. Our local remedies should be penetrating. Therefore glycerine and water, never syrups and mucilages, should be our vehicles for all local applications. The officinal solution of iron chloride might be diluted three or four times for this purpose. While it undoubtedly contracted the vessels it was often painful. It congeals the muco-pus of the fauces. Carbolic acid, Monsel's solution, and glycerine could be advantageously used in this way. For nasal disinfection a saturated solution of boric acid was preferable.

For internal treatment, iron assisted the anæmic condition. Vegetable tonics, including quinine, were probably useless, as were also quinine insufflations in the oral cavity. The main reliance was to be placed on the bichloride. He was in the habit of giving a two-year-old child $\frac{1}{12}$ grain every two hours; four years, $\frac{1}{10}$ grain; six years, $\frac{1}{8}$ grain; ten years, $\frac{1}{4}$ grain. His solution was made by dissolving the sublimate in alcohol and adding elixir of bismuth and pepsin. Sublimate solution, two grains to the pint, could be used for the nose. The mercurial should be continued at least one week, unless diarrhœa supervened, but not longer. Calomel had been suggested. Many gave an initial dose, and some continued it through the entire disease. It undoubtedly increased the anæmia. Of late it had been given in the New York Foundling Asylum by sublimation, from ten to forty grains being used, under a tent made over the patient's bed. The indication for its use was the supervention of hoarseness. The attendants had been salivated in several instances, but the patients were apparently not injured. It seemed to lessen the necessity for intubation. The process might be repeated in three or four hours. The percentage of recoveries from intubation where necessary was better in the calomel cases than in others. For the nephritis he gave iron, and for the paralysis tonics, strychnine, and electricity.

DR. A. SEIBERT, of New York, remarked that we must see way down to the epiglottis in order to have our examination amount to anything. Children should not be allowed to kiss each other when there was any sore throat about, and very young children should not be allowed to creep around on the floor. They scraped up the dust with their fingers, which they would afterward put in their mouths. Thus the germs which settled on the floor were conveyed to the sensitive membranes. The experiments of Gebhardt, of Bonn, had shown that false membrane could be dipped in a sublimate solution, and then, after drying and teasing, cause a bacillus development in a culture medium. It was therefore especially under the conditions of diphtheria, slow in germicidal action, but thorough, if once brought into perfect contact with the affected areas. A five per cent. solution of acetic acid had been shown to be quickly penetrating.

Cervical Adenitis.—DR. B. T. SHIMWELL, of Philadelphia, read the paper. Lymphatic stasis was present to a greater or less degree in the majority of children, and was a local manifestation of a general disease. The glandular enlargement resulting therefrom later caused the surrounding cellular tissue to become affected. Caseation is more common in, though not entirely dependent upon, the so called "scrofulous" diathesis. In these cases there is often deep-seated pus, when there

may seem to be only superficial cervical swelling. A proper understanding of the anatomy and relations of the cervical fasciæ were necessary for proper surgical treatment. Poultices he strongly condemned. The knife should be used early. General tonic treatment was presupposed. Hilton's method of opening the abscesses should be followed. Thorough irrigation and breaking down all pockets with the finger were necessary. No compresses should be used. If bichloride was used, it should be followed by irrigation with some other fluid. He had used the silico fluoride of soda with much satisfaction. The shock in all operations about the neck was disproportionately great.

Tetanus Neonatorum.—Dr. B. A. Waddington, of Salem, N. J., read a paper on this subject. In a practice of twenty-six years he had had eight cases with two recoveries. Seven were among negroes. His cases had always occurred under bad sanitary conditions. He believed the disease to be due to a specific coccus. He had had no recoveries with chloroform, calabar bean, small doses of chloral, or Sims's method of manipulating the parieto-occipital bones so as to lessen pressure on the medulla. In both of his favorable cases he had found a filthy condition of the navel. This he had cleansed with beta-naphthol and peroxide of hydrogen solutions, and had then given beta-naphthol and chloral in hourly doses of one grain each, diminishing as the convulsions lessened.

Dr. A. Behrend, of Washington, D. C., believed the cause to be pressure on the medulla. He regarded chloral as a specific if pushed.

Report of Thirty-five Cases of Pharyngeal Diphtheria Treated by Sub-membranous Injections, was the title of a paper read by Dr. A. Seibert, of New York, who demonstrated the use of the methods employed. His instrument was virtually a hypodermic syringe, having a long nozzle terminating in a hollow plate. At right angles to the latter were several very short ordinary hypodermatic needles not over one-eighth of an inch long. The long nozzle could be bent on its axis at various angles, so as to fit the different portions of the throat. His fluid was the aqua chlori of the United States Pharmacopeia. Pharyngeal diphtheria was at the start always a local process. The bacilli gained access to the deeper mucous layer alone, or with streptococci, causing the exudate. The false membrane was to be regarded as the result of this action rather than as the disease itself. Our treatment should be local, so as to kill the bacilli early, before they became so deeply imbedded as to become beyond the reach of our antiseptic fluids. Giving bichloride by the stomach was useless. To remove the membrane and rub in the same solution hurt the sound epithelium, and the bacilli were thereby only rubbed deeper into the tissues. Chlorine water (from one-quarter to one half a syringeful) was easily injected over the minute spots which were seen during the early stage of the disease. In only one case had the gag been required. The chlorine was penetrating and attacked bacteria and all organic matter. It was better to inject deeply. It was believed that where the membrane was of a dirty, sloughing nature, there were more streptococci than bacilli present. The injections should be made on an empty stomach. The pain was slight. A mouth wash was subsequently used of iodine and carbolic acid, and an ice-bag was placed over the neck. Food and stimulants were given as usual. While during the day the child might be disturbed frequently for the various procedures necessary, it should be allowed to remain undisturbed from midnight till 6 A.M. All of his cases were at least three days old. The membrane remained for from two to four days, but it came away mechanically under the influence of the mouth wash. He had lost only two cases out of the thirty-five, one from heart failure and tracheo-bronchial diphtheria which had come on before he saw the case, and the other had been improperly treated by the attendants. Cultures made in ten cases showed the Loeffler bacillus in each instance. Not one of the favorable cases had any subsequent paralysis, because the early germicidal action of the remedy prevented ptomaine formation.

Infant Dress.—Dr. F. S. Parsons, of Boston, Mass., read the paper. The present method of wrapping newborn babies up like mummies is wrong. The belly-band constricts the abdominal walls and prevents their natural elastic resiliency. It predisposes to rather than prevents hernia. The garment next to the skin should have sleeves and legs so as to allow free movements of all the extremities and should be perfectly loose. Over this can be put whatever is necessary for warmth and protection.

The following papers were referred to the publication committee: "Lithæmia in Children," by Dr. William Pepper, Philadelphia, Pa.; "Prevention of Pulmonary Phthisis in the Adult by Proper Treatment of the Lung Lesions of Childhood," by Dr. W. N. Stickler, of Orange, N. J.; "The Pathological Aspects of Phimosis in Children," by Dr. C. N. Dixon Jones, of Brooklyn, N. Y.; "Sympathetic Convulsions in Children," by Dr. S. J. Radcliffe, of Washington, D. C.; "Remarks on the Child's Ear," by Dr. Samuel Sexton, of New York.

The following gentlemen were elected officers of the Section for the ensuing year: *Chairman*—Dr. E. F. Brush, of Mt. Vernon, N. Y.; *Secretary*—Dr. B. A. Waddington, of Salem, N. J.

OBSTETRIC SECTION

Fourth Day, Friday, May 8th.

The Restoration of the Pelvic Structures after Injury, was the subject of a paper by Dr. Henry O. Marcy, of Boston. The doctor's views on the lesions of the perineal structures and the reconstruction of the various parts involved, are in a general way well known to the profession. His methods are widely different from those usually commended, and in a synoptic way may be classed as follows: The parts injured lie behind the vaginal muscle, and the dissection should be so made as to lift it forward. The retroverted ends of the transversi muscles are thus reached and rejoined to the levator loop. This is accomplished by buried tendon sutures applied in different lines, and the parts thus closed are sealed with iodoform collodion. When the rupture is complete the rectal and vaginal sides are first closed by lines of continuous buried tendon sutures, and then the operation is finished as when the rectum is not involved. Dr. Marcy has used this method for many years, and has operated on several hundred cases, without a perfect restoration of the parts. Trachelorrhaphy is greatly simplified by the use of the continuous tendon suture applied with the Hagerdon needle, and the great gain lies in the fact that the sutures require no further attention, and a vaginal dressing of iodoform wool changed once or twice is the sole care that is requisite. Thus effected it allows of a perineal reconstruction, at the same time operation, also a manifest advantage. Dr. Marcy always uses the continuous tendon suture in the closure of vesico-vaginal fistula, and in vaginal resections undertaken for cystocele, or other deformities of the tract requiring plastic operations. The paper included an interesting review of the uses and history of the animal suture.

Thirty-five Specimens of Ectopic Gestation Removed Post Mortem, was the subject of a very able paper by Dr. Henry F. Formad, of Philadelphia. The paper contained a large amount of statistics. The doctor had examined 3,500 women, many of them, however, quite old women. His 35 cases were: 1 ovarian, 3 interstitial, and 31 tubal intra peritoneal. The ages of the women were from twenty to forty years. They were women in good health and hard working women. They were all multiparæ, and all at the time under some form of physical emotion, working, lifting. Not one of the cases was diagnosed ante mortem; 31 died in 12 hours and 3 in 21 to 36 hours—the three interstitial cases. All of these

women knew they were pregnant. There was a bloody discharge, a sudden pain in the abdomen, a giving way, and collapse. Mode of death in every case, internal hemorrhage. He thinks there is no such thing as hæmatocele of the Fallopian tube. He thinks he must have missed an enormous number of cases of ectopic pregnancy in former years. He used to find a number of cases of hematocele; he believes now they were ectopic gestation. He found it a very hard matter to find the fœtus, and only succeeded in one half of the cases. In all of his cases there was chronic salpingitis.

The Pathology and Treatment of Chronic Ovaritis, was the subject treated by Dr. A. J. C. Skene, of Brooklyn, N. Y. He discussed the great question when to remove the ovaries and when not to. Young persons he found to stand removal of the ovaries badly. They became fat, irritable, indolent, and dissatisfied. His treatment for chronic ovaritis was saline laxatives, relieve pain by bromide of sodium 20 to 30 grains with fluid extract of hydrastis 10 to 15 drops. This is most efficient in the beginning of the attack. If the pain returns, may return to the medicine, ten grains of salicylate of soda and five of antipyrine between meals, and at bed-time when the stomach is empty. Give feeble patients aromatic spirits of ammonia and camphor, which are better than alcohol. In unmarried avoid local treatment if possible. Use hot sitz baths. Bichloride of mercury and syrup iodide of iron are good. The bromide may be supplanted by sulphonal if found insufficient.

Cœliotomy (Abdominal Section) for Rupture of the Parturient Uterus was the subject of a paper by Dr. Henry C. Coe, of New York. The doctor thought this pre-eminently a surgical emergency, and should not be studied from its gynecological or obstetrical side alone. The author based his paper entirely on his own personal experience, that of four cases in which abdominal section was performed, one case successful, the patient being now in perfect health. Operative treatment in the unsuccessful cases came too late, *i.e.*, from eight to eighteen hours after rupture. The successful case was as unfavorable as could be, but was operated upon early, as soon as the lesion was discovered. The writer thinks that abdominal section is indicated under the following conditions: Before the uterus is emptied, when the placenta or any portion of the fœtus has escaped through the rent, as attempts at manual delivery only increase the shock and destroy the patient's chances after section; where there is evidence of progressive internal hemorrhage. After the uterus is emptied it should be done when there is extensive prolapse of the gut through the tear. In all complete lacerations (especially in those involving the broad ligaments), except small tears low down near the vaginal fornix, where good drainage can be maintained. In incomplete tears where the broad ligament is extensively involved and there is evidence of progressive hemorrhage, this point must remain *sub judice*. Only one other besides the writer (Peters) has opened the abdomen in such a case. After opening the abdomen he arrests the hemorrhage, either with the forceps or the temporary rubber ligature. If the tear is small (two inches), and is low down in Douglas's cul-de sac, drainage per vaginam may be indicated. If the tear is clean cut without contusion of the edges, and does not involve cervix or broad ligaments, it may be closed with deep or seroserous sutures. If the tear is not low down, is extensive, with contusion of the edges, and especially if a portion of the fœtus presenting protrudes, amputation of the uterus with extra-peritoneal treatment of the stump is indicated. In extensive transverse tears of the lower segment of the uterus, and in tears beginning in the cervix and extending upward through the broad ligament, the writer would strongly urge the propriety of total extirpation of the uterus as the operation par excellence. The doctor deprecated any intention of recommending a heroic method of treatment to the entire exclusion of the more conservative. He is an avowed conservative in abdominal surgery, but believes that rupture of the parturient uterus is a desperate emergency, in which a fatal termination is the rule, and that it requires prompt and energetic treatment according to the rule of modern surgery. The fact that statistics of cœliotomy in these cases have shown a large mortality is not an argument against the operation. In every case the accoucheur, if not himself a surgeon, should, without an instant's delay, summon experienced counsel, and explain to the family that immediate resort to the abdominal section may be necessary. Only by prompt interference can we expect to improve statistics, and thus elevate the operation above the level of a hopeless and apparently unnecessary surgical experiment.

The Use of Vaginal Tampons was the subject of a paper by Dr. W. A. R. Sellman, of Boston. He thought the vaginal tampon was seldom required for a hæmostatic effect. In an experience of twenty years he has not found it necessary to tampon for a hæmostatic effect for hemorrhage. He did not even favor the tampon in hemorrhage from cancer. He never applied the tampon in specific gonorrhœa, as it might force the disease up into the uterus and tubes. He recommended tampons in office practice, where a solution was applied which might run out and cauterize the outer part. He also recommended them in prolapsed uterus where there was no uterine catarrh, and inserts them as pessaries after plastic operations on the vaginal wall.

My Fourth Conservative Cæsarean Section, was the subject of a paper by Dr. H. A. Kelley, of Baltimore. The patient was dwarfed and rachitic, thirty-five years of age, weighing one hundred and fifteen pounds, and fifty-two inches high. Head large and angular with prominent forehead; body long and legs short, with marked outward curvature of the thigh-bone, giving a distinctly waddling character to the gait. The previous history had been illumined by the fact that she had been paralyzed for a long time, beginning in her eighth or ninth year. She had never grown any after that. The child was taken out alive, and is still living and doing well, as is also the mother, who recovered without an untoward symptom. The details of the operation are given. This makes the fourth case for the doctor in three years, all the patients being alive and well at the present time.

The Use of Cocaine in Gynecological Surgery, was the title of a paper by Dr. William H. Humiston, of Cleveland, O. He uses it in dilating and curetting, first giving a tablespoonful of whiskey or brandy. Fill a hypodermic syringe full of a four per cent. solution, with two minims of pure phenol to each half ounce of the solution; inject five minims into the posterior lip, wait two minutes, then, with the bullet forceps, which will be painless, secure a firm hold. Inject into several portions of the cervical canal an amount equal to about twenty minims; dilate till you can inject ten minims of a ten per cent. solution into the uterine cavity. He has not given an anæsthetic, save cocaine, in dilating the uterine canal for the past three years, and his operations have included many primiparæ. In trachelorrhaphy inject the angle and surfaces you wish to denude, and you can operate with no pain at all. In perineorrhaphy he uses the split flap operation, and with one injection of thirty to forty minims of a four per cent. solution, he anæsthetizes the whole field. He quiets his patients by telling them he will give them chloroform if they cannot stand it, but has never had to do so. Has had unfavorable symptoms from the cocaine, which vanish very quickly after the administration of stimulants. He has dilated the urethra for fissure and irritable caruncle with but slight pain. He had assisted at an Alexander operation where two grains were injected, one in each side, at intervals of one half-hour. The patient experienced but slight pain. He then reported a case where he performed the operation of trachelorrhaphy, anterior and posterior colporrhaphy, and perineorrhaphy, at one sitting, with cocaine as an anæsthetic. The whole time required in making the four operations was but one hour and forty-

five minutes, and seventy-five minims of a four per cent. solution of cocaine was used, or three grains.

Minor Uterine Surgery was the title of a paper by Dr. J. M. Baldy, of Philadelphia. He thought that Emmet's operation for lacerated cervix should in most cases fall into that deserved disuse which has come to splitting up the cervix for sterility and dysmenorrhœa. He thinks, on the whole, it had been better for womankind had the uterine sound never been invented. He thought the careful study of bimanual palpation would largely do away with the sound. Taking it all in all, he decidedly approves of gynecological minor uterine surgery in the field to which it is applicable, but it must be borne in mind that this field is a limited one, and one which becomes more and more narrow as our diagnostic resources increase.

A Contribution to the Normal and Pathological Histology of the Tubes, was the subject of a paper by Dr. J. Witridge Williams, of Baltimore. He insisted there were three layers of muscular tissue instead of two. A twisted condition of the tube, he said, showed the border line between health and disease. The twists show an infantile condition of the tubes. This is found in women who are poorly developed sexually, and may be accompanied by sterility. The paper was accompanied by a number of well executed charts.

A Study of Infection through the Drainage-tubes, was a very scientific paper read by Dr. T. A. Robb, of Baltimore. The experiments were carried on in the laboratory of the Johns Hopkins Hospital, and showed an infinite amount of work on the part of the essayist.

The paper was discussed by Dr. Kelley, on whose patients the experiments had been performed, and who complimented the work very highly.

The Treatment of Posterior Face Presentations, was a paper read by Dr. Eugene Bernaday, of Philadelphia. It has been his experience that if the chin presents posteriorly at the commencement of labor and engages in the superior strait as such, unless changed by manual interference, there remains a posterior position during labor. The treatment of mento-posterior presentations practically resolves itself into two methods, version and craniotomy. He has failed to obtain any good results from the use of the vectis. The forceps should never be applied when the chin is to the sacrum. This is invariably followed by serious injuries to the mother without due compensation. Version should only be performed when the presenting face has passed out of the mouth of the uterus. After the face has entered the pelvis I consider all attempts at version unjustifiable. Should all attempts fail to produce a favorable change in the presenting face, craniotomy should be performed, not after hours of ineffectual labor, when the mother's tissues are sodden and their vitality destroyed by the continuous pressure of an impacted face, but should be done at once.

Pyoktanin as an Antiseptic, was the subject of a paper by Dr. H. J. Boldt, of New York. The doctor has given this remedy a thorough trial, though only for a short time, but has been very favorably impressed with it. The suppuration ceases more rapidly under its use than under other remedies, and that without producing any noticeable effect on the system. He used a one per cent. watery solution, which is five to ten times stronger than is recommended. He has used it with success as an intra-uterine medicament.

A Case in Obstetrics, Followed for Months by a Daily Discharge of over Two Quarts of Watery Fluid through the Cervical Canal, was the subject of a report and paper by Dr. John Hammond Bradshaw, of Orange, N. J. The child was a male, weighing 12.5 pounds, with a large ossified head, face presentation, podalic version, and child born dead. The sound, on examination some weeks after labor, passed readily through the fundus of the uterus to an almost limitless extent. The patient, finally, after being placed on codeia, recovered from the flow, which commenced again on discontinuing the remedy, and again disappeared on resuming it. He is of the opinion, after six months' observation, that this fluid comes from the peritoneal cavity, and that there is existing a hole through the uterine wall.

There were quite a number of other papers, read by title or in full.

The officers elected for the ensuing year were: *President*—Dr. E. E. Montgomery, of Philadelphia; *Vice-President*—Dr. Bedford Brown, of Alexandria, Va.; *Secretary*—Dr. Franklin H. Martin, of Chicago.

On motion of Dr. Thomas Opie, of Baltimore, the number of papers at future sessions was limited to forty, and the Chairman was given power to eliminate to reduce to that number. There were seventy papers offered this time, and it was impossible to hear them all, though many were read by abstract.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

DISCUSSION AT THE MEDICAL AND CHIRURGICAL SOCIETY ON THE VALUE OF TUBERCULIN IN SURGICAL TUBERCULOSIS—REJECTION OF THE DRAFT CHARTER FOR THE UNIVERSITY OF LONDON.

London, May 16, 1891.

A special meeting of the Medical and Chirurgical Society was held last week in order to discuss Mr. Watson Cheyne's paper on the value of tuberculin in surgical tuberculosis, read at the preceding meeting of the Society.

Mr. Barwell opened the discussion, and his views as to Koch's treatment were very pessimistic. He pointed out that the fluid contained not merely sepsin but also one per cent. of an alkaloid which was very poisonous, and was probably a ptomaïne allied to sepsin. It was manufactured in the culture medium by the growth of the tubercle bacillus, and there was as yet no known means of equalizing the quantity of this alkaloid in Koch's solution. Koch's fluid, again, did not deprive the bacilli of their infective properties, and Virchow was of opinion that it was liable to produce general tuberculosis. Mr. Barwell said he agreed with the last conclusion. He then pointed out that the results published in this country could be summarized as follows: Mr. Hutchinson had not seen one case of lupus cured; of Dr. Heron's thirty-four cases, four were worse, nine stationary, and the rest were improved. Mr. Cheyne's lupus cases were remarkable. One—apparently cured last December—had relapsed in a month; of the rest, not one was cured, even with the aid of vigorous surgical treatment.

Dr. Douglas Powell said he must admit that he had been disappointed with the results of the treatment. He had not, however, seen any of the terrible catastrophies one read of. In only one case had an excessive reaction given him cause for anxiety. In one other case there was danger of pyæmia. Mr. Cheyne considered sepsis to be a contra-indication, but the chief incidents of the second stage of phthisis were due to the material which was in the cavities undergoing septic change. These incidents were necessary accompaniments, and it was needful to sustain the patient's strength through this eliminatory period, and then the means adopted for this purpose were often successful. It was certainly possible by means of tuberculin to hasten this period of elimination, and the question then arose as to what cases it would be safe to do so in. This could only be decided by experience. He doubted if Mr. Cheyne's method of frequent inoculations was adapted for the treatment of internal tubercles, as it was impossible to provide efficient drainage, etc. The result of frequent injections seemed to be to stimulate the tissues to throw off the tuberculous stuff and to get the better of any left behind. The natural effect of the stimulation of the healthy tissue was to bring about fibroid change, which was the natural safeguard against the

further spread of the tubercle and the natural accompaniment of its arrest. The use of inoculations for too long a period or too often might hinder the formation of fibrous tissue.

Mr. Howard Marsh said everybody was anxious to know if the remedy would be able to deal single-handed with tubercle—as mercury could with syphilis—or if it was a useful accessory to other forms of surgical treatment. Mr. Cheyne had apparently concluded that it was not a specific, as his advice was not to adopt it in an early stage of the disease. If it was not an efficient remedy against incipient disease, there was but little chance of its being so in the later stages. Was tuberculin then a useful accessory in combination with other methods? Mr. Marsh pointed out that in the treatment of tuberculous joint diseases surgeons were divided in opinion as to which of two courses to adopt. One method was the expectant one and he employed this himself. The other was an early and free removal of the diseased tissues by operation. He thought tuberculin might possibly help to circumscribe the extent of these operations.

Dr. Delépine showed a few specimens which he had obtained six years ago from tuberculous synovial membranes in which the appearances exactly resembled those which Mr. Cheyne had exhibited at the last meeting, from cases treated with tuberculin, and which he had contended were the result of ordinary inflammatory processes.

Dr. Hime said he differed from Mr. Barwell in thinking the general reaction produced by tuberculin was similar to the effects of septic infection. The curative results obtained both here and abroad were, he thought, very gratifying.

Dr. Theodore Williams said his own experience was most disappointing. All his cases in which the treatment had been tried had done badly, whereas cases in the first stage treated with cod-liver oil and tonics, and sent to sea or to the mountains, got practically cured.

Dr. Abraham thought the results were not equal to the first expectations. There was no relation between the quantity of tuberculous disease present and the reaction, and the latter was of no real diagnostic value. There was little fear of the disease being disseminated by the treatment.

Dr. Drysdale said he had followed both Dr. Heron's cases and those of Mr. Cheyne, and had come to the conclusion that he would not try the treatment himself.

Dr. Wethered referred to cases in which improvement had followed the treatment, and said he thought it ought to be tried. He agreed with Mr. Cheyne that the treatment had been prematurely cried down and its dangers magnified.

Dr. Edward Squire said the matter of dosage was a very important one. In medical cases rapid elimination was not required, but a slow action to allow of the formation of fibrous tissue around the tuberculous patches. In his own cases of lupus improvement was followed by relapse.

Mr. Harry Fenwick said he had tried tuberculin in ninety cases of urinary tuberculosis. The presence of septic processes was very important and very unfavorable. The swelling of the peri tuberculous tissues led to suppression and retention of urine. Hemorrhages had followed the use of Koch's fluid. He concluded that it could only be of therapeutic value in the earliest stage of vesical tuberculosis.

Mr. Watson Cheyne then replied and said that in speaking of sepsis he had only been thinking of pyogenic cocci, and not of the organisms found in phthisical cavities. There was no reason why his method should be irksome, as a nurse could give the injections. That tuberculosis could be kept stationary by the treatment seemed evident by the fact that relapse often followed cessation of treatment. He did not advise the treatment to be used before operation, because tolerance would be established, and so a valuable assistance in the after-treatment would be lost. He agreed with Dr. Delépine that there was nothing specific in the inflammation after the use of tuberculin, but what had struck him so much was the remarkable predominance of the organizing appearances in the tubercles in his specimens. He remarked that physicians had been more excited about this remedy than surgeons, and were always so after fresh remedies against tubercle were announced. This did not look as if cases of early phthisis yielded very readily to ordinary treatment.

On Tuesday evening last the Draft Charter for the reconstruction of the University of London was rejected by Convocation by a majority of more than two to one, the exact numbers being: For, 197, against, 461. The division was preceded by an animated debate in which most of the arguments were put forward with which we have long been familiar. The supporters of the scheme made a great point of the fact that, if the Draft Charter were rejected, a new University for London would be founded and the present one left stranded; the latter statement was received with considerable derision. In seconding the motion of Lord Herschell to adopt the Draft Charter, Sir Richard Quain made an Irish bull by observing that, as a graduate of fifty years' standing, he could not be silent without speaking. Mr. Bompas, Q.C., led the opposition against the scheme and, pointing to the diverse conditions under which degrees were (in accordance with the scheme) to be granted by collegiate examinations of varying nature, said that in future the possession of a B.A. would not necessarily show what the holder knew, or that he knew anything. Mr. R. H. Hutton (a member of the Senate) said the new scheme was a kind of centipede; it had an enormous number of ganglia and no cerebrum. Mrs. Scharlieb, M.D., said the women members of Convocation were by a large majority opposed to the scheme. I understood her to say that, if it were carried, women students of medicine would in future seek their qualifications to practise elsewhere. The announcement of the numbers was received with cheers. It is now generally agreed that the scheme is dead and that the coming event is the creation for the metropolis of a teaching university as a local body on the lives of the older universities.

THE ABORTION OF PNEUMONIA.

To the Editor of the Medical Record.

Dear Sir: I have been very much interested in an article written by Dr. Oliver J. Roskoten, of Peoria, Ill., in the Record of May 2d, upon the "Abortion of Pneumonia" in which Dr. R— claims to have aborted four cases out of five by the use of a mixture of jaborandi, acetate of ammonia, and aromatics, with hot pediluvia and counter-irritants. During the last few months I have had occasion to search the literature upon this subject very thoroughly, and the only case I have found of the apparent abortion of pneumonia is one reported by Dr. H. E. Counsell in the London *Lancet* for 1889, vol. 1, page 730, in which the writer claims to have aborted pneumonia in its first stage by a single dose of fifteen grains of antipyrine. In this case, if I remember correctly, hot pediluvia had been used before the drug was administered.

In a paper which I had the honor to read at the last meeting of the American Medical Association, in Washington, I have shown from a list of more than three hundred cases which I have treated during the last twenty years that pneumonia in its first stage can be in many cases aborted by the use of hot mustard pediluvia and baths applied to the legs, thighs, arms, and hands, and hot flax-seed or rye-meal poultices, sprinkled with enough mustard to produce a gentle counter-irritation, over the chest. This I believe to be sufficient in many cases to abort the disease, and its action is upon the well-known principle that active stimulation of the venous and arterial capillaries upon the surface of the body and at the ex

tremities always equalizes the circulation of the blood and relieves and removes internal congestions. I think all writers agree that the first stage of pneumonia is one of active congestion or pulmonary engorgement, and therefore the first indication for treatment should be to diminish the blood pressure by bringing as much blood as possible to the surface of the body and thus equalizing its circulation.

I have never used so dangerous a drug as jaborandi in this disease, but have recently used a single dose of antipyrine, of ten or fifteen grains, immediately upon getting my patient into bed after the mustard bath; but I seldom repeat the dose, as I have found the repetition apt to produce nausea and great depression. My treatment has usually been very simple, consisting, with an adult, of a powder containing five grains each of nitrate of potassa and Dover's powder, which may be repeated in three hours if free perspiration does not ensue; fifteen minutes after giving the first powder I give from one half drop to one and one-half of tr. aconite rt., combined with fifteen drops spirits æth. nit. and water to a teaspoonful. These doses I repeat every half hour until six or seven doses have been given, and then give at intervals of one or two hours. I keep my patient well covered to the neck with an extra quantity of bed clothing and have the feet kept hot with a rubber bag or jug filled with hot water. After two or three hours I find him in a profuse warm perspiration; the headache and blood-pressure upon the lungs are gone and the temperature and pulse begin to go down, until in the course of twenty-four hours they are nearly normal.

Now, Mr. Editor, in twenty years' practice I have used this treatment in several hundred cases and found it practically successful; so much so that I have seldom failed to abort a case that has not got to the second stage; but there is one very serious obstacle in its way, and that is the difficulty in persuading physicians to adopt any such simple plan of treatment as I have described. They will run after and spend hundreds of dollars in experimenting with the delusions and fallacies of a Brown-Séquard, or a Koch, while common-sense principles and treatment are entirely overlooked. I believe it to be utterly useless to look for a single drug that will sweep congestion and engorgement out of lung-tissue, for it will never be found until one is found that will repair a broken bone or sew up a wound. But the disease must be met and fought on common-sense principles, and in that way can be cut short very easily if proper treatment is used at first and patiently persisted in. I believe, with the editor of this journal, that "the treatment of this disease is still a reproach to our art;" and it is so because physicians expect too much of the drugs they administer. I would like to notice very fully many methods of treatment which I have seen used, but time and space will not permit. One of the worst is the continued administration of opium, which simply relieves the pain but allows the inflammation to run an unbridled course. Another is quinine, which has been proved times without number not to act as an abortifacient but to derange the appetite and digestion, produce cardiac weakness, profuse cold perspiration, and profound nervous debility. I might also mention the treatment with veratrum viride and calomel, the effect of which can only be to somewhat reduce the temperature and modify the disease. Digitalis, indeed, is a cardiac tonic and stimulates the circulation of the blood to the capillary blood-vessels, but its action is not sufficient to remove the active congestion, as it cannot be used in large or frequently repeated doses. Venesection, too, though it may be useful at the very first, is too dangerous a remedy to be thought of when the disease has made any progress.

It is my opinion that physicians will never be able to successfully abort this disease until they learn to go back to common-sense principles and use common-sense treatment, even if it has not the sanction of a *savant* or college professor.

J. W. Small, M.D.

153 East Fiftieth Street.

ALOES—A CORRECTION.

To the Editor of the Medical Record.

Sir: Referring to my paper on aloes which appeared in the issue of the Medical Record for December 6, 1890, I beg leave to correct the formula for the "Weisbaden Elixir," which, owing to the absence of the original, I gave from memory, expecting to make the necessary corrections when proof came to hand. Unfortunately the matter was overlooked, and the formula, as published, is defective. I am prompted to make this statement because of the numerous applications I have had from manufacturing chemists to have me approve of the pills, capsules, etc., which they had taken the trouble to prepare for the purpose of supplying physicians with this product. The original formula, as written by the Wiesbaden physician, is as follows:

℞	Spanish saffron	gr. xx.
	Socotrine aloes	ʒ j.
	Boletis laricis	ʒ j.
	Powdered myrrh	ʒ jss.
	Powdered rhubarb,	
	Powdered angelica root	āā ʒ ij.
	Zedoary root,	
	Gentian root,	
	Calamus root	āā ℥ ss.
	Brandy	♁. ij.

M. Sig.: Eight or nine drops to be taken half an hour after meals, on sugar, or mixed with a little brandy or wine. Cold water must not be taken soon after the medicine.

At the time this formula was published I suggested that it would be found convenient to have it dispensed with a little glycerine, because water causes a precipitate. A little wine may be substituted unless there be objections from a moral stand-point, but I think this can be effectually met by having the product evaporated and presented in the form of a mass, either in pill or capsule, or it might be enclosed in wafers to suit the taste of the patient. I beg leave to say in this connection that the remedy is very much improved by age, and it will be found in practice that stock six months old or more will be more satisfactory than that which has been freshly prepared. For all practical purposes, both the saffron and myrrh may be omitted, and if the product is put up in the form of a solution the elimination of these ingredients adds greatly to its appearance. It will be superfluous for me to add any suggestions in regard to the care which should be exercised in selecting the different drugs included in this combination, and it will not be necessary to point out the need for the most thorough and long-continued maceration, in order to secure the active principles together with the peculiar aroma characteristic of this excellent preparation. Instead of brandy, I think diluted alcohol would answer the purpose quite as well when the product is intended for use in the solid or semi-solid form; but when it is to be used in the form of a liquid, I much prefer the brandy; it can then be given alone or in combination with a simple tincture, as gentian, calamus, or cinchona.

It will be observed that aloes is the only active purgative remedy, the other ingredients in the doses used being principally carminatives, and as the dose of aloes is sufficiently large, I hope no one will so improve upon the original as to substitute purified aloes, or aloin, the active principle. There can be no doubt in the minds of practitioners familiar with the facts, that irreparable injury attends the attempts on the part of physicians and the laity to secure active purgative effects from the continued use of aloes, and I repeat here what I hinted at in the paper referred to, that many a case of Bright's became possible only through the abuse of aloes or other similar purgative. When it is stated that the now popular pill containing aloes, strychnine, and belladonna, is made by manufacturing chemists who are not supposed to be doing a very extensive business, in lots of one million at a time, we can have some conception of the immense number of these that are yearly consumed. While admitting

that the combination is efficient, the marked increase within the past few years of kidney troubles seems to be in close relation with the popularity of the pills referred to, and I hope the medical profession will take the necessary steps to arrest this demoralization, and put a stop to the destruction which unwise medication is producing.

Another suggestion might be added, viz.: That the Wiesbaden elixir in the form of a bolus could be advantageously combined with ox-gall, which, as is well known, has a favorable effect when exhibited in combination with aloes. Ox-gall, moreover, supplies an artificial antiseptic, assists in the digestion of fats and starchy food products, and thus serves to prevent the formation of poisonous products in the intestine. I have no doubt but that a combination of this character would be found useful in a very large number of cases where aloes is indicated, and think it is but a question of time when a combination of this nature will take the place of aloin, strychnine, and belladonna. Very respectfully,

JOHN AULDE, M.D.

4719 FRANKFORD AVENUE, PHILADELPHIA, PA., May 5, 1891.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from May 20, 1891, to May 30, 1891.

WELLS, GEORGE M., First Lieutenant and Assistant Surgeon. By direction of the Secretary of War, will proceed from Paoli, Ind., to Columbus Barracks, O., and report in person for duty to the commanding officer of that post. S. O. 115, par. 7, A. G. O., Washington, D. C., May 20, 1891.

WYETH, MARLBOROUGH C., Captain and Assistant Surgeon. By direction of the Secretary of War, is granted leave of absence for three months on surgeon's certificate of disability. S. O. 119, par. 6, A. G. O., Washington, D. C., May 25, 1891.

BROWN, PAUL R., Captain and Assistant Surgeon. Granted leave of absence for one month, with permission to apply for an extension of one month. S. O. 59, par. 4, Department of the Missouri, May 26, 1891.

Official List of Changes in the Medical Corps of the United States Navy for the week ending May 23, 1891.

BRIGHT, GEORGE A., Surgeon. Detached from the Omaha, and granted three months' leave of absence.

MEANS, V. C. B., Passed Assistant Surgeon. Detached from the Omaha, and granted three months' leave of absence.

KEENEY, JAMES F., Assistant Surgeon. Ordered for examination preliminary to promotion to Passed Assistant Surgeon.

Cotton Mather as an Inoculationist.—Cotton Mather, the much-abused Puritan divine, nearly lost his life in the advocacy of inoculation. He succeeded in converting Dr. Zabdiel Boylston to his views, but the chief "society doctor," Dr. William Douglas, opposed inoculation by arguments of the familiar anti-vaccination stripe. Dr. Boylston inoculated his negro servants, whereupon an attempt to lynch him resulted, and absortive attempts were also made to blow up Cotton Mather's house. Seventy-eight years later, when Dr. Waterman introduced vaccination, the same physical arguments were used. Variola epidemics in which the immunity of the inoculated and vaccinated were demonstrated, saved Drs. Boylston and Waterman from violent deaths at the hands of a mob excited by newspaper and society demagogues.—*Medical Standard.*

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending May 30, 1891.

	Cases.	Deaths.
Typhus fever	1	0
Typhoid fever	15	6
Scarlet fever	220	53
Cerebro-spinal meningitis	3	7
Measles	329	15
Diphtheria	95	29
Small-pox	0	0
Varicella	7	0
Pertussis	4	5
Erysipelas	2	0
Mumps	0	0
Rötheln	0	0

The Dwelling-house in Relation to Tuberculous Consumption.—In an article on this subject, in *The Practitioner* for February, 1891, Dr. R. Thorne summarizes the conditions of dwellings tending to the promotion and to the prevention of tuberculous consumption as follows:

Conditions tending to the promotion of consumption:

1. A soil either (*a*) naturally damp and cold; or (*b*) subject to the influence of the rise and fall of a subsoil water lying within a few feet of the surface.

2. A dwelling-house of which either the foundations, the area they enclose, or the walls, are, by reason of faulty construction or otherwise, liable to dampness.

3. Such immediate surroundings of the dwelling-house as tend to prevent the free movement of air about it, and its ample exposure to the influence of sunlight.

4. Such structural defects as would prevent the maintenance within all parts of the dwelling-house of ample movement of air by day and by night, and free exposure of its habitable rooms to daylight.

Conditions tending to the prevention of consumption:

1. A soil which is dry (*a*) naturally; or (*b*) freed by artificial means from the injurious influence of dampness, and of the oscillations of the underlying subsoil water.

2. A dwelling house so constructed as to be protected against dampness of site, foundations, and walls.

3. Such open space on at least two opposite sides of the dwelling-house as shall secure ample movement of air about it, together with its free exposure to the influence of sunlight.

4. Such construction of the dwelling-house as will secure for its habitable rooms and throughout its interior free movement of air by day and by night, and the free access of daylight.

Coddling.—The following, from the pen of the "Woman about Town" in the New York *Evening Sun*, is a suggestive, as well as entertaining, bit of newspaper prose: "A melancholy tale of a small boy was told recently to The Woman—a tale whereby hangs—not another story—but a small, very small, sermon. Here is the tale: This small boy was the child of an intelligent, a super-intelligent mother, who had all kinds of beautiful theories about small boys and the way to rear them hygienically. From his babyhood, therefore, this boy had been brought up on theories. From the time he was promoted from baby foods—of which he was allowed to have only the most improved kinds—he never had the fun of eating any of the awfully unwholesome and awfully good compounds that do so much toward keeping the average boy from wanting to be an angel before his time. He never ate pie and pudding and hot biscuit and maple syrup and taffy and green apples and popcorn all at once, and he never had a howling stomachache which he could ease only by swearing a little when his brother was around and his mother wasn't, and then crying a little, in between, when nobody was around. No; he was allowed to eat only the simplest foods—oatmeal and a little meat and some potatoes and healthful whole-wheat bread and all the things that the books tell about. And so he lived and grew, in spite of it all, until he was about eight years

of age, and then he went to make a visit to his grandmother, who wasn't 'advanced' or highly informed as to the new ideas in dietetics, but who was old-fashioned and had queer ideas that boys like good things to eat, just for the sake of eating them. And so she sat up nights to think of good things for this boy to eat. And he—well, he forgot all about his 'bringing up,' and it is to be feared that he sat up nights, too, to eat some of the good things she stewed up for him. This beatific state of things lasted a whole week, and then something serious occurred. The small boy grew suddenly and dangerously ill. His grandmother poulticed and dosed him with just the same old-fashioned enthusiasm with which she had fed him. But he hadn't been accustomed to heroic treatment of any kind, and in two days he died. That's the story. The moral is this—it isn't pointed, you will observe, either at the grandmother or the boy, but at the mother. The Woman lays the blame for that boy's death right at the mother's door. She had brought the youngster up on too improved methods. She had coddled his stomach and made its work easy for it until it had never developed half its normal strength and ability to take care of food. And the first time it found a heroic task set for it, it gave it up altogether. Stomachs are not unlike people. They need hard things to develop them sometimes. Lobster and Welsh rarebit and ices at unholy hours have their purpose in the physiological world just as well as dumb-bells and rowing machines and chest weights. Trust the stomach to tell you when you have carried your heroism too far. But don't make a molly-coddle of it, or it will make a dyspeptic or a corpse out of you. There is sound sense and real wisdom in the voracious but ungodly taste which prompts the small boy to make an ostrich of himself. Let him do it if you want to make him strong."

The Prevailing Fevers of China.—Dr. Coltman, writing in the *Medical Missionary Journal* upon the fevers of China, remarks that but little personal investigation on the subject has been made up to the present time, owing to the comparatively recent advent of foreign medical men, and to the want of confidence on the part of natives to submit for any lengthened period to the treatment of a foreign physician, or, in fact, to any one physician, their rule being to change doctors two or three times a day if they can afford it. Again, there have been but small hospital facilities for studying fevers, and there is an impossibility of obtaining post-mortem examinations. Dr. Coltman considers that small-pox is the most common disease, nearly every person suffering from it at some period of his or her life. Vaccination, although practised, is done very carelessly. Measles appear to be common, but is somewhat milder than in Europe. Scarlet fever, although it undoubtedly occurs among the natives, is far less common than among Europeans. Erysipelas is rare. Typhoid fever is very difficult to diagnose in the short time that a foreign medical man is allowed to attend a case; but Dr. Coltman thinks that when more accurate reports are possible, this disease will be found to be more common among the natives than is now supposed. Typhus fever is met with all over North China, and as far south as Shanghai. Relapsing fever is found constantly associated with typhus. Dengue does not seem to be known among natives. Cholera occurs as an epidemic every few years, and is very fatal. Diphtheria is severe and frequently fatal among the natives. Whooping-cough has occasionally been met with. Rheumatic fever is very prevalent in some parts. Chronic muscular rheumatism is common all over China, but is unattended by fever. Malarial fevers appear to be common everywhere, though the prevailing type varies; thus, tertian is most common in Pekin, quartan in Foochow, Swatow, Shanghai, and Hangchow, and remittent in Cheefoo and Tientsin. In Chinanfu, Dr. Coltman has never seen a case of quartan ague; it is all intermittent of the tertian or quotidian type. The treatment, of course, of all malarial fever is by quinine or some other cinchona bark alkaloid. In Hangchow the carbolic acid and iodine treatment has been used successfully as a prophylactic; arsenic is recognized as valuable in the chronic form.—*The Lancet.*

Professional Secrecy and Life Insurance Certificates.—The French Court of Appeal has just delivered judgment in a case in which a widow had brought an action against a life assurance company for the amount of her husband's policy, which the company declined to pay because the medical man who had attended him refused to fill up the usual form with the name of the disease and its duration, declaring himself bound by the law of professional secrecy not to reveal the nature of his patient's disease. The court has decided against the company, holding that the medical man himself is the sole judge as to whether facts revealed to him by a patient were confided to him under the seal of professional secrecy.—*The Lancet.*

A Blessing Upon New York Gynecologists.—I wish to say that the gynecologists of New York are courteous, kind, and obliging. They are progressive and able men, and I am proud of them. As the winters come and go, and the snow-flakes whiten their silvery locks into a crown of glory, may their lives go gently and slowly on. May they many times and oft yet see with healthy eyes the yellow stacks of ripened grain and the straw stack's gleam of gold. May their eyes behold fat, sleek cattle wander ing over rich green pastures. May their ears often listen to the rustle of the silken tassels on the corn. May each returning autumn fill the cup of life's pleasure with its luscious, ripened fruit, and every winter of discontent be scattered by the golden sunshine of repose.—Dr. F. B. Robinson, in the *North American Practitioner.*

The Involuntary Accomplice.—A very good story is told of the celebrated alienist, Legrand du Saulle. A fashionably dressed lady called on a Palais Royal jeweller, and having selected a bracelet of considerable value, requested the tradesman to send along with her an employee in order that she might show the bracelet to her husband and obtain his approval and the money to pay for it. This seeming fair enough, her demand was complied with, and the pair adjourned—to the house of Legrand du Saulle. She went into the doctor's consulting-room under the pretext of showing her husband the bracelet, leaving the employee in the waiting-room. When there she told the doctor that she had with her a young nephew of hers who had a singular monomania, that of believing himself to have been robbed of a valuable bracelet, and she asked the doctor to examine him in another room and report to her thereon. She thereupon left the room in order that the "patient" might be introduced. On entering the room the suspicions of the young man were aroused by the absence of the lady with the diamonds, and he at once insisted upon having either the diamonds or the money. This, of course, was only what Du Saulle expected, and it was some time, and only after a very complicated disentanglement, that Du Saulle began to understand that he had been cleanly duped into acting the part of an accomplice. By that time, alas! the robber had made good her escape.—*London Medical Recorder.*

An Old Story Retold.—Dr. F—— sometimes drank a good deal at dinner. He was summoned one evening to see a lady patient when he was more than half seas over, and conscious that he was so. Feeling her pulse, and finding himself unable to count its beats, he muttered, "Drunk, by Jove!" Next morning, recollecting the circumstance, he was greatly vexed, and just as he was thinking what explanation of his behavior he should offer to the lady, a letter from her was put into his hand. "She too well knew," said the lady, "that he had discovered the unfortunate condition in which she was when he last visited her, and she entreated him to keep the matter secret, in consideration of the enclosed (a £100 bank note)."

Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 39, No. 24.
Whole No. 1075.

NEW YORK, JUNE 13, 1891.

$5.00 Per Annum.
Single Copies, 10c.

Original Articles.

ALBUMINURIA IN PERSONS APPARENTLY HEALTHY, AND A CONSIDERATION OF ITS RELATION TO LIFE ASSURANCE.[1]

By WILLIAM B. DAVIS, A.M., M.D.,

MEDICAL DIRECTOR OF THE UNION CENTRAL LIFE INSURANCE COMPANY, CINCINNATI, O.

IN a paper read before the American Medical Association, at its recent session in Washington, D. C., May 6, 1891, I discussed "The Prevalence of Albuminuria among Healthy Persons," and showed from authoritative sources that it is more common among presumably healthy people than was formerly supposed. I called attention to the fact that Professor Grainger Stewart had demonstrated its presence in nearly one third of the population, while Stirling found it in forty-four per cent. of healthy people, Capitan in forty five per cent., De La Celle-Chatauberg in seventy-six to one hundred per cent., and Posner asserts that he has found it in all normal urine.

If albuminuria prevails so widely, and, indeed, if it prevails among but twenty or thirty per cent. of the population, it behooves us to ascertain the cause of its prevalence.

Causes of Functional Albuminuria.—A distinguished authority on Bright's disease — Mahomed — stated that "although a large amount of attention has been devoted to the experimental investigation of the pathology of albuminuria during recent years, our knowledge of it remains very incomplete, and, owing to the contradictory results that have been recorded, what little knowledge we possess appears uncertain." If this be true of the albuminuria of organic disease, which has been known and differentiated for over sixty years, how much more is it true of functional albuminuria? Scarce fifteen years have elapsed since the attention of the profession was first called to it, and during that time a great variety of causes have been reported as producing it.

These may be arranged under the following heads: 1, Dietetic; 2, cold and cold baths; 3, muscular activity; and 4, mental strain and strong mental impressions. The ingestion of food, and cold baths have been active factors in its production.

Dr. Russell, Medical Director of the Ætna Life Insurance Company, has kindly given me a singular illustration of the first subdivision, viz.: A professional friend, who is now and has always been in robust health, has for years invariably found albumin in his urine after eating buckwheat cakes. Dr. Batten found albumin in the urine of four young men after a long ride in a cold railway car. Pavy records the fact that when Weston performed his first pedestrian feat in England and walked one hundred and fifteen miles in twenty-four consecutive hours, his urine, passed an hour after the finish, was albuminous, and contained hyaline and granular casts of the tubules, unaccompanied with blood-corpuscles. Twelve hours later his urine was found to have resumed its normal condition. Dr. Wells, Medical Director of the John Hancock Mutual Life Insurance Company, informs me that a patient of his—a strong, healthy man—always has albumin in his urine after taking a boxing lesson. Johnson reports a number of cases of temporary albuminuria as a result of the fatigue and anxiety of a prolonged examination of the Civil Service. Ralfe said: "Hardly a season passes but I am consulted by some student who has discovered albumin in his urine while reading for his examination, and of whom I hear no further when his troubles are over." Dr. Thomas Bryant, President of the Harveian Society of London, reported a case where a floating kidney was the cause of occasional albuminuria, and Dr. Eastis reported a case of floating kidney in which movement, however easy, caused albuminuria.

Dr. Thorburn, Medical Director of the North American Life Assurance Company, makes mention of excessive smoking as a factor in its production.

Dr. John Mason, in a prize essay read before the Border Counties Branch of the British Medical Association, May, 1890, reports a case of albuminuria at night but not in the day urine. It was found that the presence of albumin depended on certain positions of the body. If the patient lay on the right side or on his back, there were only traces of albumin; if on the left side, there was an abundance of it; if he lay on his belly, there was none.

Dr. Lambert, Medical Director of the Equitable Life Assurance Society, mentions one cause which, I think, no other observer has alluded to, viz., extremes of temperature. In a letter to me he says, "There is one point which has been a constant factor in regard to our examinations in this office. Since 1876 we have examined the urine of everyone applying to this office. When the temperature reaches zero or below, and when the temperature reaches ninety degrees and above, the percentage of apparently healthy men having albumin in their urine increases from two per cent. to five per cent. until the temperature either rises or falls nearer to its mean condition. This has been the result for years in this office every December and January, and every June and July, when the extremes of temperature are most apt to strike the city."

Dr. Burr says that in functional albuminuria it was the circulation rather than the kidneys which was at fault. In these cases there was a weak propulsive power of the heart and deficient vascular tone, the velocity of the blood was diminished and the static condition increased. "The less the velocity and the greater the static condition of the blood, the greater would be the amount of albumin." The question of functional albuminuria, he said, was largely one of physics, and as such should be studied.

Bartels also regards it as due to an altered state of blood-pressure. He says: "Perfectly healthy kidneys, solely in consequence of an altered state of blood pressure upon their vessels, can excrete albuminous urine."

Maguire holds the same views, for he says that "cyclic albuminuria was not of uncommon occurrence in people with low arterial tension. Albuminuria was common itself in young people who felt 'slack,' with a pulse of low tension. In such cases it seemed to be due to vascular stasis caused by a weak and failing heart." "This variety," he said, "was not of bad prognosis."

Goodheart reported thirty-nine cases of albuminuria without obvious disease which came under his observation. After reporting a particular case, that of a young man in whom it had existed for a number of years, and all that time he appeared in perfect health, he said: "I do not pretend to explain such cases, but they cannot be said to be due to nephritis. The curious intermission in the output of albumin, the suddenness with which it will come and go, is such that one may well find a difficulty

[1] Read before the Association of Life Insurance Medical Directors, in New York, May 29, 1891.

in attributing it to local conditions and least of all to anything inflammatory, for no inflammation, *per se*, could explain it." Its production may be due, he says, to the following causes, viz.: "Congestion of the viscera, overconcentration of urine, oxaluria, hæmoglobinuria, the admixture of albuminous products in the lower passages after the urine has passed the secreting structures, and neurotic conditions."

Sir William Roberts mentions oxaluria as an undoubted cause. Moxon and Collins attributed it largely to morbid matters in the urine, particularly oxalate of lime.

Semmola thinks it is caused by the presence in the blood of albumins of greater diffusibility than the normal blood albumin.

Senator believes there are two sources of it, one being in the blood of the capillaries of the glomeruli, and the other source in the capsule of Bowman down to that of the urethra. He holds to the view that the throwing off and disintegration of the epithelium of the urinary tract adds to the albumin of the normal urine. He also says there are many reasons for believing that albumin is transuded from the blood of the glomeruli into the urine. If this be true, he says, then it is plausible to accept the view that this transudation, like all other transudations in the body, is an albuminous fluid, and that it becomes a part of the urine and is not absorbed. This is probably the chief source, he says, of the albumin in the vast majority of the cases of "physiological albuminuria," and would naturally depend upon the quality of the blood, as well as the pressure and rapidity of the flow of the blood through the capillaries of the glomeruli.

While some of the above causes are exceptional in their character, and others but temporary in their action, the greater number are, as Senator has recently said, influences which, single or combined, act on the majority of mankind with regular changes within every twenty-four hours, hence the albuminuria dependent upon them may appear or disappear with marked regularity within the same period.

Diagnosis of Functional Albuminuria.—In our consideration of functional albuminuria it will simplify the discussion if we exclude all cases of persistent, continuous albuminuria, and all cases of albuminuria associated with any apparent disorder of the kidneys, and confine ourselves strictly to such cases of albuminuria as are not associated with any distinct evidence of disordered health.

Probably no writer or teacher has a more extensive experience with certain forms of functional albuminuria than Pavy; certainly no name is better known in this department of medicine. Since grouping and describing them under the head of "cyclic albuminuria" they have been freely and widely discussed in the profession. To use his language, "they are admittedly cases of functional albuminuria, with a sharply defined and readily noticeable character which groups them together with an easily recognizable class, standing in a distinct position by themselves. Functional albuminuria is the 'generic,' and cyclic albuminuria a 'specific' group contained within it. The distinguishing character belonging to the case is that without evidence from other sources of the existence or pre-existence of renal disease, albumin, under the ordinary course of daily life, is at one period of the day present and at another absent, and that this recurs day after day in exactly the same order. At the period of rising in the morning there is no albumin to be discovered. In an hour or two's time albumin shows itself in increasing quantity for a while, and then, as the day advances, declines and becomes usually entirely lost before bedtime. This condition may run on, with its repeated diurnal variation, not only for weeks or months, but also, it can be said, for years, without anything further becoming noticeable." Pavy here gives the profession in unequivocal terms, a clean-cut description of the distinguishing characteristics of that form of functional albuminuria to which he has given the name of "cyclic."

Senator says "physiological" or functional albuminuria must not contain more than four or five grammes of albumin to one thousand grammes of urine (one twenty-fifth to one twentieth per cent). It must be normal in quantity, specific gravity, appearance, composition, and especially must it be free of morphotic elements.

Tyson, Harley, and others call attention to the fact that albuminuria is less significant when the specific gravity is high. Tyson says when the specific gravity is above 1.020, the assumption is that the albuminuria is functional.

Huebner recently reported fifty-six cases of cyclic albuminuria in Schmidt's "Jahrbücher," and he formulates the following conclusions concerning them, viz.:

1. Cyclic albuminuria is a peculiar and especial form of persistent secretion of albumin by the kidneys. 2. It is not dependent upon a disease of the tissues of the kidneys. 3. It is peculiar to a certain period of development of the organism. 4. It is provoked by a change from the horizontal to the upright position, then lasting a longer or shorter time, to disappear even with the upright position the same day. 5. It is merely an expression of a general weak state of the organism, which at the present cannot be more clearly explained. 6. Its prognosis is good, provided the patients receive proper attention.

Sir William Roberts describes albuminuria in the apparently healthy as follows: "The albumin is usually small in quantity. Its occurrence is intermittent. It is generally absent in the morning urine, after the resting and fasting of the night, and present in the urine of the day. It comes and goes on successive days. As a rule the urine contains no deposit of urinary derivatives, but sometimes a few hyaline casts are discovered (Moxon and Fürbürger). In other respects it is perfectly normal. There is never any dropsy or other collateral sign of Bright's disease."

Tyson says a consideration which goes toward establishing the functional character of it, although not essential to this end, is the absence of albumin on rising in the morning.

Janeway says a distinguishing characteristic is its presence in daytime and absence at night.

Ralfe observed that in functional albuminuria the correspondence between the fluid ingested and that passed out of the body follows the ordinary physiological law.

Significance of Tube-casts.—A number of the prominent writers on functional albuminuria regard the presence of tube-casts in the urine as indicative of structural disease of the kidneys. On the other hand, there are writers equally eminent who hold that the presence of a few casts—particularly the hyaline—are not indicative of organic renal disease.

Johnson, in referring to Tyson's statement concerning the gravity of tube casts, says: "I venture the remark that small hyaline and epithelial casts are often present in the albuminous urine of patients whose speedy recovery may be confidently predicted."

Edes says: "A few casts may accompany a very slight amount of albumin and have no meaning."

Janeway mentions a man whose urine contained casts after boxing; at other times his urine failed to show casts. From this, he said, "it follows that hyaline casts may appear in the urine, quickly formed and as quickly disappear."

Weston's urine, after an extraordinary feat of pedestrianism, showed the presence of casts both hyaline and granular, which vanished as quickly as they came, after a night's rest.

Saundby, referring to "transient albuminuria" in healthy persons, said: "In one or two cases there were a few oxalates, and in one or two a few hyaline casts; but the latter were quite exceptional, and, as we know, they are of no pathological significance."

Roberts says: "As a rule the urine contains no deposit of urinary derivatives, but sometimes a few hyaline casts are discovered;" and he quotes Moxon and Fürbürger in support of this position.

Lambert, Medical Officer of the Equitable Life Assurance Society, writes me: "I am convinced that the presence of an occasional cast does not necessarily imply destructive or permanent disease of the kidney."

Grainger Stewart observed, in what he calls "paroxysmal albuminuria," sudden and copious occurrence of albumin in the urine with numerous casts, the process lasting only a short time, and recurring at intervals, and he has never known them to prove permanently injurious.

Bartels mentions a case where, besides the albumin and other sediment, there was epithelium and a quantity of thick hyaline casts in which were clustered the ordinary well-conditioned epithelial cells from renal tubes, and after the third day no further casts could be discovered.

Allchin says: "Casts afford practical information rarely, if ever, conclusive when taken alone. The fact that casts are abundant in any sample of urine is not in itself of necessity a serious sign."

Harley regards the specific gravity of the urine of much more significance than the quantity of albumin or tube-casts.

Prognosis.—No one now questions the fact that albuminuria may occur, and, as a matter of fact, does occur frequently in persons otherwise apparently healthy, and it is admitted that this albuminuria may continue for years without any apparent impairment of health, but the question on which the profession is not a unit is: What will be the ultimate result of this albuminuria? Will it continue simple or will it terminate in structural disease of the kidneys? These questions are involved in the discussion of the prognosis of functional albuminuria, and are questions of vital importance to us as physicians and as medical officers of life insurance companies.

George Johnson has known of cases of "intermittent albuminuria" to make a good and final recovery after one, two, three, five, and seven years' duration. He also gives the history of a case which persisted for thirty years before a fatal termination. Then he says, as regards the prognosis of this class of cases, "the absence of albumin at any period of the twenty-four hours, the urine being of normal color, quantity, and specific gravity, and free from tube-casts, warrants the conclusion that there is no serious structural change in the kidney, and justifies a hopeful prognosis."

Grainger Stewart said: "So considerable a proportion of my cases have gone on for long periods without having terminated in structural disease, that I am confident that it must be rare when they have such an ending," and he states that he gives a hopeful prognosis if the quantity of urea is normal, the pulse and heart in a healthy condition, and there is an absence of tube-casts.

Professor Saundby says that "during the last ten years I have seen scores of cases of functional albuminuria and I have not heard one of them developing into Bright's disease; many of them are known to be quite well."

A recent leading editorial in the *British Medical Journal*, commenting on the ultimate results of this form of albuminuria, says we may have to wait another generation before this question can be finally set at rest. "It may, however, be taken as certain that the albuminuria does not pass into Bright's disease."

Edes says: "Some cases of this kind have been followed for years without the occurrence of any symptoms leading to a suspicion of progressive renal disease. In many the albumin has disappeared without special treatment and without the change being assignable to any particular cause."

Mahomed says: "For my part, I am quite convinced that we may have albuminuria with practically healthy kidneys."

Klemperer says: "Cyclic albuminuria exhibits no signs of Bright's disease. Indeed, all symptoms, except albuminuria, may be absent. Its course is chronic; it is the source of no danger to life; it does not become transformed into serious disease of kidney; and it may finally greatly diminish or disappear entirely."

George Harley says "that a quarter of a century's experience in the treatment of the various kinds of albuminuria had taught him that the specific gravity of the urine was a far more reliable guide to prognosis than either the quantity of the albumin or tube-casts." Albuminuria unassociated with renal structural derangements, he said, did not cause the twenty-four hours' urine, as a rule, to fall below 1.015 of specific gravity, and could thus be distinguished—other things being equal—from the incurable albuminuria of Bright's disease.

Huebner Schmidt's "Jahrbucher," 1890, says the prognosis is good, provided the patients receive proper attention.

Pavy says, where traces of albumin only are observed, without any other indications of renal disease, the prognosis is favorable. When there are cases in which a notable amount of albumin is found at one period of the twenty-four hours and none at the other periods, and no other symptom of renal disease, the prognosis is favorable.

Sir William Robert says: "The prognosis in functional albuminuria is favorable. It is now certain that a sensible albuminuria is of much commoner occurrence in healthy persons than has been hitherto supposed."

Senator holds that normal urine may contain albumin, and consequently that no unfavorable outlook attaches to the presence of "transitory or paroxysmal" albuminuria.

Albuminuria and Life Assurance.—We are now brought face to face with a very difficult problem. Thus far we have spoken as physicians who have been intently engaged in investigating and considering a symptom of a grave disorder, which, until recently, has been accepted as proof positive of the presence of the dread disease. Our desires and interests have been enlisted in the hope that the significance hitherto attached to that symptom may be removed, and from the evidence adduced we have felt warranted in giving our patients a hopeful prognosis. Now, however, we assume our official relation as the advisers of the great business organizations which have retained us to act in their interest. In our former attitude it was not only allowable, but it was our duty to take the most hopeful view of the situation; now, however, there are pecuniary interests involved in our opinion, and we must be guarded in its expression. Pavy aptly states the case as follows: "It may be taken as standing in the position of a border line, with a favorable outlook on the one side and a serious one on the other, and everything depends upon whether, by the light of other considerations, it is viewed rightly or not."

The question of the insurability of persons having albuminuria in any form, is one that has attracted a great deal of attention in recent years, and it has been, and is still being discussed by medical men and medical organizations, the world over, with an ever-increasing interest. As the chief medical officers of life insurance companies we are more interested in the subject than any other class of medical men, and it behooves us to keep ourselves thoroughly informed on every stage of the discussion.

At the fifty seventh annual meting of the British Medical Association, in 1889, a discussion "On the Prognosis of Albuminuria with Special Reference to Life Assurance," took place, which was replete with interest. Fifteen distinguished physicians took part. One-third of them favored accepting persons with albuminuria, who were otherwise apparently healthy, at advanced rates or for short terms; another third favored postponement until the disappearance of the albumin, and only two gentlemen were for outright rejection. The fact was recognized that a number of agencies might produce temporary albuminuria, which was of no significance whatever; and when there were but slight traces of albumin, with no other symptom of structural or other disease, the case was not considered invalidated. Persistent albuminuria, however, was regarded as significant of renal dis-

ease. Pavy said: "I do not consider that medical knowledge is at present in a position to enable us to differentiate these cases from those which may become developed into well-marked Bright's disease. Concerning "paroxysmal," "intermittent" or "cyclical" albuminuria, a goodly number were of the opinion that it did not end in structural disease of the kidneys. Pavy said that a favorable opinion of the future of this group may be given; and he thought that it will be safe for assurance companies to admit them as eligible for acceptance, but with an additional premium to meet the possible contingencies.

Johnson favored their acceptance at an advanced premium.

Saundby is a firm believer in the innocent character of albuminuria in certain cases, and would gladly see some changes in the present practice of the majority of assurance companies, and he said that one of the practical results of the study of the incidence of albuminuria in the sick and the healthy will be that the assurance companies should relax their hard-and-fast rule of rejecting or deferring all applicants whose urine contains albumin. "I know one otherwise perfectly healthy man," he says, "who was rejected by an assurance office twenty years ago for albuminuria, and whom I had to refuse for the same cause a year or two ago;" and he adds, "I have had to postpone dozens of applications of young men with albuminuria lasting for years." "These cases," he said, "might very well be insured for five years, with the condition that at the end of that time they should submit themselves for re-examination, when the company would have the opportunity of deciding finally whether to take the life or not."

Tyson, in discussing "The Relation of Albuminuria to Life Assurance," calls attention to the fact that whenever, in addition to the absence of all other symptoms of renal disease, the "real" specific gravity—that is, the specific gravity of the twenty-four hours' urine—is above 1.020, "another most important fact is in evidence against the presence of organic disease and in favor of the view that the albuminuria is functional." This is in harmony with the opinion held by Harley, who after a quarter of a century's study of renal disease, attaches more significance to the specific gravity of the urine than to the presence of albumin or casts.

Tyson concludes by saying "that life assurance associations should recognize a condition of functional albuminuria out of consideration of their own interest, as well as in justice to a class which is coming to be recognized as more numerous as our knowledge increases, and who are blindly excluded from benefits to which they are entitled." In a recent note to me he says, "I am confident that certain cases of albuminuria are insurable if they can but be selected."

Grainger Stewart says: "The existence of albuminuria is not of itself a sufficient ground for rejection of a proposal for life assurance."

Goodheart lays down the following as a good rule of practice: If a case presents itself for examination, and albumin is found in the urine, it is a case for further examination; if it be a young person, and the examination be conducted upon the urine of the early morning, the albumin will probably have disappeared at the next examination, or within a very short time, and it is a condition of no importance. If the albumin is in any quantity, and its presence is persistent or reappearance frequent, it must be regarded as a grave symptom to be watched.

Rabagliata said that the Scottish Widows' Fund, with which he is associated as its medical officer, recently found that the average age at death of persons with albuminuria was fifty-seven years. He therefore proposed that where only a trace of albumin was present, and no casts, and with no other definite lesion, the life might be received as one having an expectation of attaining its fifty-seventh year. This would mean rating up moderately lives under forty years in which albumin was present, and rejecting those absolutely which were over forty or forty-five years of age.

Pollock, in his "Medical Handbook of Life Assurance," lays down this rule: "Albuminuria presently existing, and known to have existed for years, in persons of otherwise perfect health and good family history, may be assured for a short period of say five years, with an addition to the premium, and come up again for examination at the end of that period."

The medical officer of The Provident Life Assurance Society of London writes me that he exceptionally accepts of cases of albuminuria, but as "under average lives," provided there is clear evidence of periodicity (1) as to absence of albumin at some period, and (2) of varying amount of albumin at others; the entire absence of casts in urine, and evidence that the life has never suffered from any disease of the urinary organs or of the vascular system, and that the proposed life is a young subject.

I am fully aware that it has been, and still is, the rule of life assurance companies to decline all cases of albuminuria, not excepting those who present no other indication of impaired health. Nevertheless, we have indubitable evidence from competent observers, the world over, that albuminuria is not at all infrequent among persons apparently healthy; and we have the testimony of many eminent observers and writers that we may have albuminuria with practically healthy kidneys, and that the so-called functional albuminuria does not necessarily end in Bright's disease.

Life assurance companies are organized on a business basis to assure the lives of all assurable persons. These companies look to us as their chief medical officers to inform them who are assurable. If the conclusions toward which the investigations of leading observers and students of albuminuria are now pointing are correct, then our attitude on the subject is wrong, and we are doing injustice to a large class of people by excluding them from the benefits of assurance, and besides, we are doing the companies an injustice by depriving them of a revenue which they might otherwise receive from this class.

We have learned that albuminuria is much more common among presumably healthy people than was formerly supposed to be, and Professor Grainger Stewart makes the broad statement that tests have demonstrated its presence in nearly one-third of the population at large.

It is only in recent years that assurance companies have required a urinalysis of any of its candidates for assurance. Even now only fifty per cent. of the companies require it of all candidates, and one-half of that number have only required it for the past five years. The remaining fifty per cent. only require it when the candidate is forty-five years of age or over, or when the amount applied for is $5,000 or over. It is safe to assume that one-half of the persons assured during the past eight or ten years did not have an examination of their urine made, and practically all who were assured before that period were not subjected to a urinal examination. Now, if albuminuria among persons apparently healthy is but the forerunner of renal disease, and if one-third of the population has albuminuria, we will be justified in expecting a heavy mortality from Bright's disease among the assured, particularly among those who were assured without a urinal examination. As a matter of fact, the mortality from Bright's disease among American companies for the past five years has been but 5.66 per cent. Hence it is evident that Bright's disease does not account for but a fraction of the cases of albuminuria met with.

Grainger Stewart said that it did not account for one-half the cases of albuminuria met with in practice. A recent investigation by the medical officers of one of the

[1] Some of the companies included deaths from all kidney diseases in their report.

largest companies represented in our association shows that Bright's disease does not account for more than 17 per cent. of the cases of albuminuria met with at the home office. The records of the declensions of those examined at the home office of this company, for the presence of albumin in the urine, during the years 1877, 1878, and 1879, and for January, 1880, show the total rejections to have been 137 persons; and of that number 57 have died; 11.6 per cent. of the deaths were from Bright's disease, and 5.84 per cent. were from heart disease. Crediting all of these to Bright's disease and we have at the utmost but 16.90 per cent. It may be said that the returns are not all in from this class, but of those which are in, 24.70 per cent. of them died from causes which have no relation to structural disease of the kidneys.

It is true that scarce fifteen years have elapsed since the attention of the profession has been called to the circumstance that albumin may be found in the urine of persons who do not exhibit any of the general symptoms of Bright's disease, nor even any deterioration of health; but it is also true that the evidence of those fifteen years goes far to prove that these cases of albuminuria do not all end in organic disease of the kidneys. With the information which these years have given us, and from a careful study of the testimony of the most trustworthy authorities on the subject, I think we will be warranted in accepting the following rules for our guidance in the consideration of candidates for life assurance having albuminuria, viz.:

General Rules.—1. There should be nothing in the family history indicative of heredity of Bright's disease, and there should be no symptom of renal disease in the personal history except albuminuria.

2. The candidate should be under forty years of age, in good health, and there should be no history of gout, rheumatism, syphilis, lead poisoning, nephritis, intemperance, chronic dyspepsia, or dropsy.

3. There should be no indication of hypertrophy of heart or increased arterial tension, no accentuation of the aortic second sound, and no palpitation or dyspnœa.

4. There should be no retinal changes.

5. The color, density, and quantity of the twenty-four hours' urine should be normal, or it may be darker in color and heavier in density.

6. The specific gravity of the twenty-four hours' urine should not be below 1.020. It may range from 1.015 to 1.030.

7. The precipitated albumin should not exceed one-eighth of the urine.

8. There should be a period of the twenty-four hours when the urine is free from albumin.

9. The urine, as a rule, should contain no tube-casts. When, however, the specific gravity and quantity of urine are normal, the presence of a few hyaline casts have no serious import.

When the above conditions have been met, and we are convinced of the ability of the medical examiner, and are satisfied with the completeness and carefulness with which the investigation of the case has been made, I think we can safely approve the candidate for a short endowment policy.

To a person who has passed the above gauntlet and been subjected to a rigid medical examination, this action will doubtless appear illiberal, but until the clinical significance of albuminuria in persons apparently healthy has been finally determined by observations upon one full generation, we cannot, and probably ought not, to expect life assurance companies to do any better for them.

BIBLIOGRAPHY.

Robert Saundby, M.D., F.R.C.P., Physician to Hospital, Birmingham. British Medical Journal, 1887, vol. ii., p. 912; 1879, vol. i., p. 299.

Leading Editorial, British Medical Journal, 1887, vol. ii., p. 837.

Henry Miller, M.D., Borough Fever Hospital, Sheffield. British Medical Journal, 1887, vol ii., p. 967.

John Turner, M.D., Medical Officer, Essex County Asylum. British Medical Journal, 1887, vol. ii., p. 1324.

Professor Guyon, Annales des Mal. des Organes Génito-Urinaires, 1889.

P. H. Pye-Smith, M.D., F.R.S., Physician to Guy's Hospital. British Medical Journal, 1889, vol. ii., p. 417.

W. T. Gairdner, M.D., F.R.S., Professor of Physic in University of Glasgow. British Medical Journal, 1889, vol. ii.

A. Rabagliati, M.D., Honorary Surgeon, Bradford Infirmary. British Medical Journal, 1889, vol. ii.

George Harley, M.D., F.R.S., F.R.C.P., Physician University College Hospital. British Medical Journal, 1889, vol. ii.

J. Barr, M.D., Physician to Northern Hospital, Liverpool. British Medical Journal, 1889, vol. ii.

Dr. Huebner: Schmidt's Jahrbücher, 1890, 6, p. 289.

James E. Pollack, M.D., F.R.C.P., Medical Handbook of Life Assurance, second edition, London.

John Mason, M.D., M.R.C.S. Prize Essay, Albuminuria in the Apparently Healthy, British Medical Association, May, 1890.

Professor H. Senator, M.D. Albuminuria in its Physiological and Clinical Relations, and its Treatment, Berlin, second edition, 1890.

W. H. Washburn, M.D. Albuminnria in the Apparently Healthy, Medical News, April 5th, 1890.

Frederick G. Novy, M.S. The Proteids of the Urine, with a Comparison of the Tests for Albumin, Medical News, 1888.

James F. Goodhart, M.D., F.R.C.P., Physician to Guy's Hospital. Two Clinical Lectures on Functional Albuminuria, British Medical Journal, 1890, vol. i., p. 1121.

George R. Shepherd, M.D. Frequency of Albuminuria in Healthy People, 1888.

F. De Haviland Hall, M.D., F.R.C.P. London, Medical Selection of Lives for Assurance, 1890.

Charles W. Purdy, M.D. Examination of the Urine for Life Insurance, New York Medical Journal, February 28, 1891.

Professor O. T. Ringstedt, M.D. A Case of Cyclic Albuminuria Observed at the Sabbatsberg Hospital, Sabbatsberg Hospital Report, Stockholm, 1890.

F. W. Pavy, M.D., F.R.S. Medical Times, October 17, 1885; The Lancet, 1886, vol. i., p. 437; The Lancet, 1888, vol. ii., p. 711; British Medical Journal, 1889, vol. ii., p. 417.

W. Moxon, M.D. Chronic Intermittent Albuminuria, Guy's Hospital Reports, series iii., vol. xxiii., p. 233, 1878.

Robert Maguire, M.D., M.R.C.P. The Albumins of the Urine, The Lancet, 1886, vol. i., pp. 1062 and 1106.

C. H. Ralfe, M.D., F.R.C.P. On the Classification of the Various Forms of Functional Albuminuria, The Lancet, 1888, vol. ii., p. 953.

T. Grainger Stewart, M.D., F.R.S., Professor Practice and Clinical Medicine, University of Edinburgh. On Some Forms of Albuminuria not Dangerous to Life, American Journal of Medical Sciences, 1887, p. 34; British Medical Journal, 1887, vol. i.–ii.

Alexander W. Stirling, M.D., C.M. Albuminuria in the Apparently Healthy, The Lancet, 1887, vol. ii., p. 1157.

George Johnson, M.D., F.R.S. On Intermittent, Recurring, or So-called Cyclical Albuminuria, The Lancet, 1888, vol. i., pp. 7 and 999; British Medical Journal, 1889, vol. i.–ii.

Dr. G. Klemperer. Zeitschr. für klin. Med., B. xi., H. 1 and 2 to 168.

Dr. H. Senator, Professor Extraordinary of Medicine, Physician Royal Charité Hospital, and the Augusta Hospital, Berlin. Albuminuria in Health and Disease, New Sydenham Society, 1884.

Robson Roosa, M.D., LL.D., F.C.S. Gout and Its Relations to Disease of the Liver and Kidneys, sixth edition, 1889, p. 114.

Robert Barnes, M.D. On Cyclic or Physiological Albuminuria, The Lancet, 1888, vol. i., p. 914.

W. M. Collins, M.D. On Intermittent Albuminuria, The Lancet, 1886, vol. i., p. 346.

James Tyson, M.D. The Relation of Albuminuria to Life Assurance, Transactions of the Association of American Physicians, 1888, vol. iii., p. 170.

J. M. Keating, M.D. Examination for Life Insurance, Annual of the Universal Medical Sciences, 1889, vol. iv.

John Munn, M.D. Albuminuria in Persons Apparently Healthy, U. S. Life Insurance Co., 1879.

Robert T. Edes, M.D. On the Absolute and Relative Value of Albumin and Casts in the Diagnosis and Prognosis of Diseases of the Kidneys, Transactions of the Association of American Physicians, vol. iii., 1888, p. 139.

Edward G. Janeway, M.D. Value of Albumin and Casts in the Diagnosis and Prognosis of Kidney Disease, Transactions of the Association of American Physicians, vol. iii., 1888, p. 163.

W. H. Allchin, M.D. Clinical Significance of Tube Casts, Quain's Dictionary of Medicine, p. 214.

Professor Carl Bartels. The Doctrine of Albuminuria, Ziemssen, vol. xv., p. 41.

William Roberts, M.D., F.R.S. Practical Treatise on Urinary and Renal Disease, fourth edition, p. 185.

James Finlayson, M.D. On the Occurrence of Renal Tube Casts in Non-Albuminous Urine, British and Foreign Medico-Chirurgical Review, 1876, p. 176.

F. A. Mahomed, M.D. On Albuminuria, Gny's Hospital Reports, vol. xlii. p. 234.

Vomiting of Pregnancy.—Dr. Graily Hewitt has recently published a work on this subject, in which he reiterates his frequently-expressed views as to the causation of this distressing symptom. He endorses the opinion of many authorities that the vomiting is a reflex act which starts from the neighborhood of the internal os, and he claims that the irritation arises from malposition of the uterus, causing compression at this part, and his treatment therefore consists chiefly in reposition of the displaced organ.

NASO-PHARYNGEAL CATARRH A CAUSATIVE FACTOR IN GASTRIC CATARRH.[1]

By LOUIS FISCHER, M.D.,

ATTENDING PHYSICIAN TO THE CHILDREN'S DEPARTMENT OF THE GERMAN POLI-KLINIK, NEW YORK.

Mr. Chairman and Gentlemen: It is my object to direct your attention to the frequency with which we find the association of catarrhal pharyngitis and catarrhal gastritis in adults and children. Moreover, I have observed that catarrhal gastritis is the direct result of the existing pharyngitis, and have also verified this observation by directing the treatment to the cause, *i.e.*, the pharyngitis, and thus removing the effect, namely the gastritis.

My first observations were made about four years ago, at which time I suffered with an attack of acute catarrhal pharyngitis, and further observations of patients whom I then attended revealed the same condition of affairs. An abundance of opportunity for observing the co-existence of the two diseases were given me in the large amount of material at my disposition at the Children's Department of the German Poliklinik of this City.

Freudenthal's Observation on my Own Case.—Freudenthal, while attending to the catarrhal pharyngitis with which I suffered, observed the same as I shall this evening describe, and an attack of subsequent gastritis, which always developed secondarily, immediately subsided when an astringent application was made to the pharyngeal catarrh.

Anatomical Relationship.—When we consider the anatomical position of the pharynx, situated above and the stomach below, it is easy to understand how all exudations from the pharynx, be they mucous, muco-purulent, muco-sanguinolent, or otherwise combined, can and usually do gravitate toward the stomach, either by involuntary or voluntary deglutition, especially at night, in the same manner as the insensible swallowing of saliva is continually carried on.

Children show the picture remarkably. They cannot hawk and spit as adults, consequently all catarrhal exudations forming or lying in the pharynx, and interfering with the natural comforts of the child, tend to produce, through irritation, swallowing movements, and thus it is that large quantities of septic material are forced directly into the stomach, in this way causing an infection. In several children where stomach washing was resorted to large quantities of catarrhal (usually muco-purulent) exudation was found, corresponding with the increase or decrease of existing catarrhal pharyngitis.

Unconscious Relief by Deglutition.—As near as I could determine, I found children rarely expectorate under two and a half years of age. I found nothing on this point, although I searched a considerable amount of literature. According to J. Solis-Cohen ("Pepper's System of Medicine") pharyngeal catarrhs are more frequent in the young. It is easy to understand, therefore, how pharyngeal catarrhs, be they superficial or be they in the submucous structures, including at times the sheaths of muscles or progressing to suppuration, and extending along the subpharyngeal connective tissue, discharging pus by spontaneous rupture, and emptying in the stomach, can and do irritate the mucous membrane of the stomach, and thus be the direct cause of gastric catarrh.

Probable Excoriation.—Sexton, in the Medical Record, January 30, 1886, says: "Catarrh exuding from conjunctival mucous membrane and from anterior nares excoriates cheek and lips, and sometimes produces an eczematous eruption at the seat of irritation."

Post-mortem Examinations.—As neither of the diseases in question—gastritis or pharyngitis—are fatal, and post-mortem examinations are very rare, we have very little doubt but that the discharges from the posterior nares and pharynx can irritate a healthy mucous membrane and excoriate it, as it can on a healthy skin situated outside of the body. This may, however, not be the case.

[1] Read before the Section of Pædiatrics of the New York Academy of Medicine, May 14, 1891.

Microscopical examination of several catarrhal exudations found in the stomach, as also comparative examinations of exudations in the pharynx, were made by me, but nothing definite has as yet been ascertained.

Ewald's Method.—Ewald's method of extraction of gastric fluids, and subsequent examination for presence of acid, by means of the phloroglucin-vanillin test, was the one resorted to by me.

Chemical Reaction of Catarrhal Exudations.—One point worth mentioning is the reaction of mucus, which is alkaline; so is the reaction of pus also alkaline. It is possible that the neutralization of the gastric secretions, which are acid, may also explain the cause of the indigestion and catarrh.

A. Jacobi on Diseases of Mucous Membrane.—A. Jacobi, in his book on "Intestinal Diseases of Infancy and Childhood," pp. 120, 121, says: "Diseases of mucous membranes are apt to extend over large surfaces; besides, the lymphatic apparatus participates in every process affecting the mucous membrane. Diseases of the stomach and intestines are frequently found together, diseases of stomach will extend downward, and diseases of the intestines upward according to this. Is it not possible that the lymphatics are directly responsible for the co-existence of both the catarrhal affections?"

Pathology of Gastritis.—Wilson Fox, in "Pathology of Gastritis," in "Reynolds's System of Medicine," cites Beaumont's observations and says: "There are also seen at times aphthous crusts; abrasions of the lining membrane like the rolling up of the mucous coat into small shreds and strings, leaving the papillæ bare for an indefinite space, is not an uncommon appearance. The gastric fluids extracted were mixed with a large proportion of thick, ropy mucus, and considerable muco-purulent matter resembling the discharge from the bowels in some cases of chronic dysentery. It is, however, difficult to exactly describe the lesion, as rarely has a typical case been examined post-mortem."

Gruenhagen's "Physiology," Band III.—One point worth considering here is described in detail by Gruenhagen, "Physiology," Band III., which he terms "Das Bedürfniss des Nachschluckens," and which is proved by a desire to swallow after we have already swallowed fluids, and is caused by the peripheral distribution of the laryngeus superior nerve, by which means very easily large masses of accumulated catarrhal fluid are forced into the œsophagus and stomach.

One of the strongest arguments in favor of proving that gastritis is caused very frequently by the existing and consequent swallowing of catarrhal exudations of an acute pharyngitis is proved by the fact that by attending and curing the pharyngitis, the gastritis ceases, as was observed by me in numerous instances; in other words, I frequently found pharyngitis and gastritis stand in the same relation as cause and effect.

40 Rivington Street.

RECENT CASES IN THE COURTS.

By HENRY A. RILEY, Esq.,

NEW YORK.

Smells and Injunctions.—It is sometimes said that medical men when called as experts are more apt to have different views on points connected with their profession than to agree, but any frequenter of the courts is familiar with the absolutely contradictory evidence which is given by apparently reputable witnesses in almost every case that is tried.

A case involving health legislation and the right of a court to stop the manufactory of paint came up recently, and the following *résumé* of the evidence was made by the court: "These odors were described by witnesses as 'the smell of paint,' 'paint smell,' 'heavy,' 'the smell of varnish,' 'resinous smell,' and 'piny.' Residents in the vicinity of the works testified that during the time men-

tioned in the complaint, they had been constantly annoyed by odors, smoke, and soot, which came from the works and entered their houses, producing, as they testified, headache, nausea, vomiting, and other pains and aches injurious to health; that in warm weather to keep out the soot and smoke they were compelled, to their great discomfort, to close their doors and windows; that smoke settled on their furniture and on their clothes which had been washed and hung, and which they were obliged to wash again; and in some instances tainted their food. On behalf of the defendants testimony was introduced tending to show that nothing of an unhealthful or injurious character emanated from the factory, and that the only 'paint smell' there could be was simply the smell caused by boiling linseed oil, about once a week, in the manufacture of varnish; that no smells emanated from the other parts of the factory at all, and could not; that the men, women, and girls in the factory were in excellent health, and had never been ill from being there; that one witness, a member of the committee to investigate the business in question, had visited the place thirty-one times before he could detect an unpleasant odor, and that in warm weather; and that there was nothing unwholesome or injurious to health about the business."

The trial court held that the facts were substantially as claimed by the plaintiffs, and the defendants were convicted. The appellate court said that the facts having been found by the court below in a certain way this could not be changed, and that the plaintiffs were entitled to an injunction against continuing the business. It was strongly intimated, however, that the injunction was an unnecessarily hard remedy to apply to the case.

Astrology, Christian Science, and the Law.—The astrologer and the Christian scientist both seem to be about on a par as to their contempt for the ordinary practice of medicine, although the methods employed by these two rival schools of quackery are absolutely different. Both of them are, however, likely to run foul of the courts if a sick person is left entirely unprovided for, except by incantations or prayers, and death ensues from the mere neglect.

Not long since in Brockport, Mass., a woman poisoned herself and her three children with a drug indicated to be used by the mummery of an astrologer. The woman and one child died, while the other children were reported to be recovering. The astrologer was arrested and placed in jail, but no statement has yet been noticed of any other proceedings in the case. It is to be hoped that the prosecution will not be dropped.

Some Curious Legal Nuisances.—The following are some of the alleged nuisances for which injunctions and damages have been asked from sympathetic courts and juries. In a recent English case an enthusiastic amateur played daily eight hours on a violoncello, and on Sundays a little longer sometimes. To add to the misery caused, the player lived in a flat. The judge before whom the case came decided that three hours was long enough for any human being to play on a violoncello, and the injunction issued.

In a case before the Court of Common Pleas, some time ago, in New York, a person was brought up for trundling in a carriage overhead his teething baby, both by night and day. The judge, who must have been a married man, held that the noise was not unreasonable, and refused to interfere.

In another English case a chime of bells at Deptford was not allowed to ring because the noise was offensive to the majority of the property-owners in the vicinity.

The newspapers recently mentioned the sad case of a discharged chorister who took a horrible revenge on the congregation by sitting in a pew and purposely singing out of tune. Whether he was indicted or not for disturbing public worship does not appear.

There are few annoying sounds which have not, sooner or later, been alleged as nuisances, but the courts hold that many of them must be endured.

Practically no Death Penalty in New York.—The Supreme Court of the United States has recently dismissed the appeals taken from the New York State courts in the cases of two condemned murderers, and has intimated that such appeals ought not to be allowed for purely technical and frivolous reasons, and with the only object of gaining delay. It is difficult to see, however, what is to prevent unscrupulous attorneys from taking successive appeals under the present law, and it may be that there will be no remedy until Congress passes a law regulating with more care the whole matter of appeals in criminal cases from State tribunals.

The present condition of affairs is in the meantime rather appalling. There are now six murderers in Sing Sing under death sentence, and yet there is no legal warrant for their execution, and apparently can be none for some time to come. In addition, there are twenty-five men in the Tombs in this city awaiting trial for murder, and with the present outlook they all have several years of life to enjoy without let or hindrance.

A State Medical Library.—Governor Hill has just signed the bill passed at the last session of the Legislature providing for the acceptance by the State of the Albany Medical College Library, which will form a nucleus for a State Medical Library. Five thousand dollars is appropriated for the care of the library.

Oleomargarine.—The law in regard to the sale of oleomargarine in this State seems quite well enforced, and the complaints by the farmers of interference with their dairy interests are not often heard. Nevertheless few persons who visit grocery or butter stores will ever see any packages labelled "oleomargarine," as required by the act.

A recent English case turned on the question whether the package containing the imitation or adulterated butter was "exposed to sale," and the court held that "exposed for sale" meant that the package should be in sight of the purchaser with the label attached.

It appeared that the package was placed, in the ordinary course of business, and without the intention of evading the law, behind a screen out of view of the purchaser.

This was held to be a violation of the law, even if not intended as such.

Removal of the Dead.—The removal of the bodies of the dead from old burying-grounds to new ones is often the occasion of bitter legal quarrels, and yet the courts almost always hold that such removal can be made when a proper cause is shown.

A case of the kind which may not get into the courts, is noted in a recent law passed by the last New York Legislature authorizing the Board of Education of this city to remove the bodies in the old cemetery between First and Second Streets and First and Second Avennes, and reinter them elsewhere. The site is to be used for a new school building.

HYSTERIA IN THE MALE.

By J. D. KELLY, A.M., M.D.,

LOWVILLE, N. Y.

The variety of well-marked hysteria in a male will render a somewhat detailed account of the following case and of its treatment of interest, and of possible value to the profession.

The patient, a young unmarried man, twenty-six years of age, had heretofore never been seriously sick, and beyond noticeable nervousness, had enjoyed undisturbed health. Last November, without noticeable cause, he began to complain of some trouble with his throat. He made frequent and repeated efforts to cough or hawk up, as if accumulated mucus, without apparently accomplishing anything. These efforts at clearing his throat became more and more frequent and distressing as days went by, and gradually his family noticed he was becom-

ing depressed and despondent. He remained indoors constantly, and fled to his room upon the entrance or even the approach of any person to the house. About the middle of December he began to remain in bed, declaring that he was not able to get up nor to sit up. His nervousness and despondency became more marked, and his fear of any stranger entering his room pitiable. However, upon taking to his bed a physician was called, who, after a few weeks of ineffectual treatment, was succeeded by another. About February 1st I saw the patient, who was still in bed, presenting the following conditions: Face pale, countenance expressing fear, and covered with clammy perspiration. Pulse 120, and small; temperature normal. Tongue moderately coated, yellowish-brown at base. Eyes bright, pupils somewhat dilated. Appetite good, patient taking three full meals daily from the first. Bowels constipated, no movement in the preceding ten days. Urine scant and high-colored; phosphates in abundance. Sleep disturbed by unpleasant dreams, and not sufficiently restful. His mother told me that he was daily becoming more nervous, that he required her constantly in the room, and at first permitted her to sew, and read often to him aloud, but latterly he would not allow her either to read or do any kind of work whatever, requiring her to sit by him in quiet silence. When necessary to leave him for only a short time, he invariably declared that he would be dead when she returned. He was constantly bathed in perspiration, feet and hands cold, and at time of my visit the nails and skin of his hands and feet were livid. He made almost incessant efforts to clear his throat, frequently raising his hand to his neck as if expecting to discover some abnormality there. To my question as to how he felt, he replied: "Pretty well, only for my throat." I then asked him, if that was all, why he stayed in bed? He replied: "I am too weak to sit up." I then examined his throat, and beyond indications of chronic catarrh and considerable hyperæmia of the mucosa from the constant irritation, discovered nothing. He appeared to be disappointed at this announcement. I asked him to describe just what the trouble was as he felt it in his throat. He said that there seemed to be something there that he wanted to dislodge or get up, but that he never could, no matter how often or how hard he tried. He said at times it was much worse, there was a feeling as if a ball was lodged in his throat, and at times as if something was choking him. His mother added that in those paroxysms it often seemed as if he would not live ten minutes. In his mother's absence I sought in vain for some history of excess, self-abuse, or seminal loss. He declared there was nothing wrong about him except his throat, and both he and his mother entreated me to do something to relieve that, assuring me that if his throat was well he would be "all right."

In the way of treatment I first prescribed comp. cath. pil. to unload the bowels, and followed that with pil. podoph. and hydrang. cum creta till there were indications of free hepatic function. I then put him upon pot. brom. and sod. brom., gr. x. āā, t.i.d. He appeared somewhat improved at the end of the first two weeks. I then told him that he must leave his bed every day at an early hour, and, after sponging the body over quickly with cold water, rub the skin briskly with a coarse towel. I also prescribed sherry wine, concealed under fl. extr. sars. camp., t.i.d., and directed him to dress and sit up daily and to recline upon the lounge only when tired. At the end of the next two weeks he had so improved as to go out-doors a few times and to visit me at my office. However, he still complained of the difficulty in his throat, and labored quite as incessantly at clearing it. I saw that while much of what we had gained was due to regulating the functions of his liver and bowels, a great deal more was owing to the moral force of much that I said to him in the way of assurance and direction. Having meantime increased the doses of bromides, adding trs. hyosciami and belladonna, and observing only slight decrease of throat symptoms followed by gradual reappearance of all their distressing features, I suspended all medication, and on March 10th hypnotized the patient at my office, and while profoundly in that state suggested to him that there was nothing the matter with his throat, that he must not hawk, cough, nor make further effort to clear his throat because there was nothing in it. At the end of fifteen minutes I dehypnotized him. He appeared to be dazed for a few minutes, but upon recovering himself he said that he did not hear one word of what I said to him. I noticed, while he remained in the office, that there was a total absence of any effort at coughing or hawking. The next day his mother called and said that the contrast in his conduct with his throat was wonderfully marked; that, whereas the day before I hypnotized him he hawked, hemmed, and cleared his throat every few seconds continually, on the day following she did not notice him do so above three or four times all day. She said that he still complained of pain in his throat, and I told her to ask him to come to the office on the following day. He did so, and on this second occasion I hypnotized him again, putting him profoundly asleep in just six minutes. I then reiterated what I had suggested on the preceding occasion, and added, what I had before omitted, the suggestion that he would not feel pain any more in his throat. I allowed him to sleep thirty minutes, and, during that time, in order to demonstrate how profound was his hypnotized state, I pricked the skin of his face with a pin at several sensitive points without evoking the slightest flinching, and finally I thrust the pin through the pinna of his left ear without observing the faintest movement indicating pain on his face, although I closely watched for it. He complained, upon awakening, of numbness in his arms and legs, and for some minutes rubbed them as if to restore sensation. He could recall nothing of what I had said to him, and made no allusion to the pin-pricks nor to the transfixion of his ear.

When seen again, a few days later, I was told that he had not mentioned pain in his throat since the last hypnotization, nor had there been any return to efforts at hawking or clearing it. He appeared to be greatly improved, slept well and throughout the night, awaking refreshed in the morning. He was henceforward brighter, more cheerful and hopeful, went out every day and enjoyed the society of others. He is now engaged at work and appears to be entirely relieved of all his former distressing symptoms. He has taken no medicine since I first hypnotized him.

TREATMENT OF WHOOPING-COUGH BY ATOMIZATION.

By H. ERNEST SCHMID, M.D.,

WHITE PLAINS, N. Y.

When I propose to say a word regarding the treatment of this dreaded disease, I do so because the method pursued by me has been productive of better results in my hands than anything else on record. The drugs used are not new, to be sure, but I do not know of an instance where they have been employed in this my combination of them. I rely entirely, no matter what stage of the disease, on spraying my patients with a solution of carbolic acid, menthol, cocaine, glycerine, and cherry-laurel water, generally in some such proportion:

℞.	Acid carbolic	grs. vj.
	Menthol, four per cent. solution	ʒ iv.
	Cocaine, three per cent. solution	ʒ iij.
	Glycerine	ʒ j.
	Aquæ laurocerasi	ad ʒ ij.

This I direct to be used by atomizer every three hours —but I mean a thorough use, a brutal one, if necessary. I have the child held forcibly by one or more persons, and disregard any apparent strangling of the little one during a vigorous atomization. The nozzle of the instrument must be directed as far into the mouth of the

patient as possible. During the struggling and sputtering and strangling some deep respirations will ere long be made, and the object is accomplished. At first, of course, in most cases, violent paroxysms of coughing may result from the spraying, especially if much force has to be used with the child, but these soon cease and palpable effects are speedily noticed by the parents. The great point is to be able to impress them with the importance of perseverance.

I have seen the whoop arrested by this means after one thorough spraying, coughing without the whoop still going on for a while, and I have been gratified with inducing perfect recovery in one and in two weeks. A few cases in illustration might not be out of place.

A young lady, while on a visit in New York, was attacked by the cough. An excellent physician attended her, but the violence of her attack was terrible, and only excessive doses of anodynes gave her any rest at all. After two weeks she concluded to return home and arrived here perfectly stupefied, with her eyes starting out of their sockets from the dreadful straining accompanying the whoop. I stopped internal medication at once, put her on my spray, and in one week she was well.

I was called to see two children, one three years, the other not quite a year, old, brought home by their mother from a visit to some distant place, and sick with whooping-cough. Both whooped badly. After the first spraying the baby ceased whooping altogether, and both were entirely well in two weeks.

A gentleman sent for me to consult me about his two-year old boy who had the whooping-cough. The family had come from Europe a short time before on a visit merely, and were booked for their return to France two weeks later on. Mother and child had gone to North Carolina to visit some relatives, and there the latter was taken with the cough. I expressed the belief that the little one might be cured in time for the sailing of the steamer if it were here. The father at once telegraphed the family to come on. It was very hot weather. The little one almost perished on the trip, and I feared he would not live through the first night following his arrival, for bronchitis complicated the pertussis, and a highly febrile condition prevailed. However, he rallied very much by morning and the spraying was then begun. The struggles of the determined little fellow were very great, but the treatment was carried out mercilessly. In consequence of this I ceased my attendance in eight days, and the family sailed for Europe on the day previously appointed, with a perfectly recovered child.

A short time ago I found in one of my families three children sick with pertussis. The two older ones, after considerable persuasion and coaxing, permitted the use of the spray, but the youngest refused it. The two elder ones recovered in two weeks, while the youngest is going through the slow, protracted course of internal treatment, the mother not being willing to use force.

From my repeatedly successful employment of this treatment I feel justified in claiming that it promises to be one of the most efficient methods yet devised, provided it be used intelligently, thoroughly, and, if necessary, energetically.

May 16, 1891.

TWO CASES OF TRICHINOSIS.

By JOHN H. BARRY, M.D.,

HOUSE PHYSICIAN, ST. FRANCIS' HOSPITAL, NEW YORK.

At a time when so many of the rarer diseases seem running rampant in our midst, and the profession consequently is aglow with enthusiasm, it may not be amiss to record two cases invested with unusual interest.

On April 27th, Mrs. J. M——, aged twenty-six, was admitted to St. Francis' Hospital, presumably suffering from a severe attack of epidemic influenza. Her history was that she had been taken with severe colicky pains one week previous to admission, which were soon followed by fairly profuse diarrhœa. The following day brought relief of symptoms and she was able to do her housework in a more or less satisfactory manner for one week subsequently. She was then stricken, however, with severe prostration, her temperature rose to 102° F., and she sought relief at hospital. On attempting to sit her up in bed and examine her lungs, she complained bitterly of intense pain in both thighs.

The visiting physician's (Dr. Siebert's) attention was called to this fact whose immediate impression was that the case was one of trichinosis.

Her husband, aged twenty-nine, was by this time also a patient in the hospital, and gave strictly parallel symptoms to those of his wife's, save that the initial diarrhœa was lacking in his case. The pain, at first referred to thighs, became more and more diffused and was soon followed in both by a pronounced œdema of lower extremities there being a tendency even to gangrene in the woman's left groin.

Mrs. M—— was seemingly tongue-tied, a circumstance doubtless due (in the light of subsequent events) to paralysis of motor nerves and muscles of tongue. This rendered her speech inarticulate and thus it was we had to elicit the better history from the husband, who, as a matter of fact, was less markedly prostrated throughout the course of the disease.

He related the participation of himself and wife in a meal of raw beef and pork on the evening of the wife's colic and diarrhœa.

The temperatures remained about 101° F. or 102°F., until within two days of death, when it registered 99⅘° F. in either case.

The man developed, and recovered from, the typical influenza pneumonia while in hospital.

The woman died May 9th, and an autopsy was performed by Dr. Edmund C. Wendt. Sections of intercostal muscles, of recti muscles, and of deltoid, under the microscope showed the trichinæ in large numbers and some as yet living.

The man died May 11th, and the autopsy revealed a like condition of the muscles under the microscope.

The cases are of interest, 1, because of their rarity; 2, because of an ante-mortem diagnosis having been made; 3, because of the suspicion they awaken of the possibility of other cases running, recognized or unrecognized, among the community.

THE INFLUENCE OF DIRECT ELECTRIZATION UPON GASTRIC SECRETION.

By ALLEN A. JONES, M.D.,

BUFFALO, N. Y.

For a somewhat extended period I have been working with Dr. Charles G. Stockton. On January 1st, of this year, while treating a patient by direct electrization within the stomach, I tested the water withdrawn immediately after the constant current had been applied by means of the Stockton electrode. This water had served as a conductor within the stomach. My test was made for free hydrochloric acid, and I found it present in large amount. As I discovered no acid in the washings before the current was applied, and as no food was present to invite its flow, it was evidently excited by the electricity. I suspected the rubber tube might, by its presence, excite a flow of gastric juice, so I left it *in situ* for ten minutes, then withdrew a little of the water and found it entirely free of acid. I then applied the constant current for eight minutes and hydrochloric was present in considerable quantity at the end of the application.

Subsequently, on many occasions, and in many different stomachs, we found free hydrochloric acid excited by the direct application of positive and negative galvanism, and by the faradic current. Direct electrization has not, with us, invariably caused secretion of gastric juice, but in the great majority of cases the constant current

has done so, while the interrupted has shown more numerous failures. These observations are, in the main, in accordance with those of Dr. Max Einhorn, published in his interesting and instructive paper entitled "A New Method for Direct Electrization of the Stomach," excepting that he experimented with healthy, and we with disordered, stomachs.

In several diseased conditions of the stomach we frequently find hydrochloric acid secreted in excess; notably of these, hyperacidity and dilatation. The cause of this lies in the disturbed or deficient innervation of the organ. This is also the cause of dilatation in many cases. More particularly do we see this emphasized in those cases which react quickly under the faradic current, and in a few weeks resume their normal size and tone. No measure is so effectual as direct electricity in the management of gastric dilatation with hydrochloric acid in excess. Knowing that the latter is secreted copiously under the influence of the current, it would seem, at first sight, to be contra-indicated. But clinical experience testifies as to its usefulness; and the benefit to the gastric innervation derived from its use quite overbalances the harm of a temporary increase in the flow of hydrochloric acid.

Direct electrization, especially with the constant current, is useful in cases of deficient secretion of acid; and this is manifest in the light afforded by such tests as Dr. Einhorn and I have made. Dr. Stockton has on record a case of intense gastralgia treated during the past winter, in which we never found hydrochloric acid present until we had used electricity directly several times. After that we regularly found it present at the proper time and in proper amount.

To recapitulate, then: 1. The secretion of gastric juice is excited by direct electrization in healthy,[1] and in many diseased conditions. 2. Sometimes in clinical work electricity fails to excite the secretion of hydrochloric acid. 3. Although in gastrectasia excess of hydrochloric acid is frequently present, direct electrization is not contraindicated. 4. In conditions of deficient secretion of gastric juice it is a most valuable therapeutic measure.

436 Franklin Street.

Clinical Department.

A CASE OF LAPAROTOMY FOR TUBO-OVARIAN DISEASE.[2]

By E. MAMMEN, M.D.,

Bloomington, Ill.

Mrs. Mary A——, widow, aged thirty-six, the mother of four children, youngest aged eight, oldest thirteen, began to menstruate at twelve years of age and has been regular ever since, with interruptions only for pregnancies and lactation, all of which were normal, including labors. There is no history of abortion. Health had always been fairly good up to February, 1887, when she was taken sick with what she described as "ulcers and falling of the womb." She was confined to her bed most of the time until September of the same year, after which she enjoyed good health to November, 1890. On November 6th I was called to see her at her home, making two visits. Her symptoms at this time were obscure—morning temperature normal, evening temperature 102° F. There was some tenderness over the abdomen, but no enlargement of either side. On my remarking that she might be sick for some time, she replied that she would go home to Olney, in this State, so as to be among friends. She departed a day or two later, and I did not see her again until February 21, 1891. She had returned to this city, and informed me that she was sick eight weeks at Olney. She was attended by a homœopathic physician, who told her she had peritonitis. She had fever, tenderness over the abdomen, vomiting, great prostration, and a slow convalescence. At this time a "lump" or "knot" had appeared in her right side, about the size of a hen's egg, but had again disappeared and could not be felt. Her menstruation had been regular all the time, and she was not aware of any uterine or ovarian difficulty. The right iliac region, however, was enlarged and tender, which enlargement, she said, had reappeared about three weeks previously, or about February 1st.

At the time of my visit (February 1st), physical examination revealed the following condition: On inspection, the right iliac region was enlarged and bulging (the patient was somewhat emaciated), and palpation revealed a semi-solid mass in which fluctuation could be felt. It was apparently smooth, about the size of a goose's egg, slightly movable, and lying entirely to the right of the linea alba. Vaginal examination disclosed the fact that the uterus was crowded to the left, and almost immovable in this position. Bimanual touch showed the tumor to the right of the uterus and capable of motion distinct from it. Dr. F. H. Godfrey, of this city, who examined the patient about this time, confirmed all of the above symptoms. The tumor was growing rapidly and its removal advised at the earliest date possible. On February 27th the needle of a hypodermic syringe was introduced a little to the right of the linea alba, near the fundus of the tumor, and about two drachms of an opalescent fluid removed. Microscopic examination of this fluid by myself and Dr. J. B. Taylor showed numerous Drysdale cells, but blood-corpuscles and pus-cells were entirely absent. All the symptoms collectively seemed to leave no reasonable doubt of the presence of an ovarian cyst. Meanwhile the patient's temperature ranged from 99½° to 101½° F., pulse 120 to 130. Both were taken daily. The cyst enlarged rapidly, and on March 9th, the day of the operation, had pushed its way up so that its position was nearly central and the fundus was two inches above the umbilicus.

The operation was performed by the writer, with assistance of Drs. Taylor, Guthrie, Godfrey, and Myers, on the morning of March 9th. An incision was made in the linea alba, about four inches long, midway between the umbilicus and pubes, and the dissection continued carefully down to the peritoneum. On opening the latter there was a gush of a small quantity of yellowish fluid and it became at once apparent that the tumor was closely and intimately adherent even at the point of incision, except on one side. On attempting to separate these adhesions the fragile nature of the cyst-walls caused a rupture of the sac, and instead of an opalescent aqueous fluid out gushed a large quantity of exceedingly fetid pus to the amount of two quarts or more. It was at once evident that we were dealing with a suppurating tubo-ovarian cyst. The pus was evacuated thoroughly before any attempt was made to remove the cyst. Its walls were so fragile that the rent enlarged during the flow of pus, and on exploring its interior a large quantity of cheesy material was evacuated, and pouches were found to project backward and upward beneath the transverse colon, backward and upward to the right toward the inferior surface of the liver, downward into the cul-de-sac of Douglas, and directly backward toward the spinal column. A hot saturated solution of boric acid was freely used for irrigating every part of this large cavity, as well as the peritoneal cavity, until all pus had been thoroughly evacuated. Then the cyst was ligated in sections as far as it could be separated from its very extensive adhesions. These adhesions involved the colon, mesentery, small intestines, bladder, and uterus. In view of the impossibility of separating these extensive adhesions it was deemed advisable to remove as much of the cyst as possible and leave the remainder. Every particle of the blood and pus having been thoroughly washed away, the

[1] Dr. Max Einhorn, MEDICAL RECORD, May 9, 1891.

[2] Read before the McLean County Medical Association, May 7, 1891.

cavity was cleaned with a solution of iodoform in ether and dried with sponges, and the wound closed with silk sutures. A large glass drainage-tube was inserted in its upper angle penetrating toward the left upper portion of the cavity, while a rubber tube was inserted into the upper right portion of the cavity, also a third tube of rubber was allowed to project from the lower angle of the abdominal incision. Thus thorough drainage was provided for. The wound was dressed with iodoform, carbolized gauze, oiled silk, and absorbent cotton. The time of the operation occupied nearly two hours. Pulse at this time began to weaken at 140. A hypodermic injection of brandy and hot applications soon caused the patient to rally, and by 4 P.M. reaction was fully established. (Before the operation—9.30 A.M.—the patient's temperature was 100.5° F.) Pulse, 120; temperature, 100° F.; she had voided urine twice, had no pain, and was cheerful. Next day at 4.40 P.M. temperature was 100.2° F.; pulse, 152. Dressing was removed, and the wound irrigated with hot solution of boric acid. Ordered ten drops tinct. digitalis to be given every four hours. At 10 P.M. temperature, 99.6° F.; pulse, 144. Next day at 8 A.M. temperature, 99.6° F.; pulse, 116. There had been some discharge from the drainage-tubes. They were removed and cleansed, and the wound was irrigated with solution of boric acid. Nourishment was taken freely every four hours. At 5.30 P.M. temperature, 99.4° F.; pulse, 108. Up to this time ¼ grain of morphia had been given every four hours to insure rest and prevent pain. This was now discontinued. On the 13th bowels were evacuated without medicine. Patient comfortable and cheerful. Wound dressed every morning and its cavity washed out with peroxide of hydrogen. The stitches were removed on the 17th and on the 19th the drainage-tubes from the upper angle were omitted and the lower one shortened.

The following shows pulse and temperature from March 12th to 20th: March 12th, A.M.: temperature, 98.5° F.; pulse, 116; P.M.: temperature, 99.8° F.; pulse, 116. March 13th, A.M.: temperature, 99.4° F.; pulse, 106; P.M.: temperature, 99.2° F.; pulse, 108. March 14th, A.M.: temperature, 100° F.; pulse, 116; P.M.: temperature, 99.4° F.; pulse, 120. March 15th, A.M.: temperature, 99° F.; pulse, 116; P.M.: temperature, 100° F.; pulse, 116. March 16th, A.M.: temperature, 99.2° F.; pulse, 112; P.M.: temperature, 100° F.; pulse, 120. March 17th, A.M.: temperature, 99.4° F.; pulse, 108; P.M.: temperature, 100° F.; pulse, 116. March 18th, A.M.: temperature, 99.4° F.; pulse, 108; P.M.: temperature, 100° F.; pulse, 116. March 19th, A.M.: temperature, 99.4° F.; pulse, 112; P.M.: temperature, 100° F.; pulse, 120. March 20th, A.M.: temperature, 100° F.; pulse, 120; P.M.: temperature, 99.8° F.; pulse, 116.

All went well up to this date. On the morning of the 20th, while emptying a syringe containing the peroxide, the patient suddenly complained of violent pain which was persistent. Evidently some of this fluid, or some of the decomposed pus which was carried along by it, had penetrated too deeply. One sixth grain morphine was at once given. On the following morning the patient was restless, and had vomited repeatedly. Temperature, 100.8° F.; pulse, 124. In the evening temperature, 103.8° F.; pulse, 156. There were evidences of peritonitis localized in the vicinity of the umbilicus. I ordered ten grains of tincture digitalis to be given again every four hours, five grains of acetanalid as required, and free purgation by citrate of magnesia, also tablespoonful of whiskey every two hours. On the following morning the temperature was 98° F. The patient was vomiting frequently. A teaspoonful of Epsom salts was given every two hours, until free watery catharsis set in, and this was continued during the afternoon. Five grains of acetanalid were given at bed time with one sixth grain of morphine The next morning the temperature was 100.8° F.; pulse, 138. Vomiting was less frequent. I ordered again a teaspoonful of salts every two hours. In the afternoon there was free watery catharsis. Temperature, 102° F.; pulse, 136. Digitalis continued. Acetanalid, grains five, morphine, one-sixth, at 8 P.M.

March 25th A.M.: Temperature, 98.4° F.; pulse, 118. From that time all symptoms of peritonitis subsided. The patient's temperature had gone down to 99° F.; pulse, 104; and all pain and tenderness had disappeared. Nourishment was taken freely and she was able to sit up a few hours daily. The bowels moved regularly.

Remarks.—The patient's cheerful aquiescence in all that was required of her, as well as her quiet courage, were helpful factors in the case.

The successful treatment of peritonitis by free purgation was well illustrated here. The saline aided in expelling the accumulated flatus from the bowels, as well as in depleting the turgid capillaries by free drainage. Acetanalid was used only to keep down high temperature, and morphine only when required to subdue pain and restlessness. Nourishment, at first, liquid; after ten days more substantial was given every four hours. On March 24th the patient asked for some beer, stating that it would relieve her vomiting. She was permitted to have it in small quantities, and it was found to relieve vomiting, as she expected. By the presence of this inflamed cyst the peritoneum no doubt became tolerant of the inflammatory process, rendering it less liable to acute peritonitis—a factor which had a marked bearing on the patient's recovery. The aspirating needle had withdrawn fluid from a small cyst lying upon the main cyst, showing that aspiration from one portion of a tumor may not always demonstrate the contents of the whole.

During the third week of April the patient suffered from la grippe, but has now (May 7th) fully recovered, and is able to perform her usual household duties.

ADVANTAGE OF COMBINING IODINE WITH GLUCOSE.

By F. P. MANN, M.D.,

SAN FRANCISCO, CAL.

THE remedial value of iodine is well known. But it is also a fact that full doses cannot be administered internally except in the form of iodide of potassium. As a rule in the various forms of disease to which free iodine is applicable any combination having an alkaline base is not desirable. In order to secure the specific action of a remedy adapted to relieve chronic disorders, and it is to this class of diseases that iodine is chiefly applicable, it is important that it should be to a certain extent cumulative and retained in the circulating blood for a sufficient length of time to exert its specific action upon diseased tissue. In glucose we have an agent capable of absorbing, or rather of occluding, free iodine so that this metalloid cannot be detected by either odor or taste, and thus combined can be administered in much larger doses than formerly employed without producing unpleasant symptoms. Another advantage in giving iodine occluded by glucose is found in the fact that as this substance occurs normally in the contents of the small intestine, in the chyle after the use of amylaceous and saccharine food, in the blood of the hepatic veins, and in the tissue of the liver in the form of glycogen, it is probable that glucose in thus occluding free iodine is itself protected from chemical change during the process of digestion by the antifermentative quality of the latter, and hence may be readily absorbed into the circulation, carrying in its embrace the iodine to be liberated during the morphological changes that occur prior to the formation of new blood-corpuscles. In the formula, thirty grains of iodine are dissolved in four ounces of water by means of one hundred and fifty grains of potassium iodide; to this solution is added twelve ounces of syrup as prepared by the sugar refineries and sold by grocers under the name of golden syrup, or sugar-house syrup, or molasses. This syrup contains glucose in combination with organic matter, and answers

the purpose quite as well as glucose manufactured from starch by the action of sulphuric acid, or other glucosides furnishing this substance in an isomeric form. The exact formula as above should be given to the druggist with special direction that simple syrup must not be substituted, this containing entirely crystallizable sugar will not take up the iodine, and the result will be a strong solution of iodine, which cannot be taken without serious inconvenience. To avoid mistake, I direct as follows:

R. Iodinii	℥ ss.
Potass. iodidi	ʒ ijss.
Aquæ puræ	℥ iv.
Syrup. fuscus	℥ xij.
Ess. gaultheriæ	ʒ ij.

M. Fiat sol. Sig.: Take tablespoonful between each meal with a little water. (Syrupus simplex must not be used.)

I have succeeded in producing the most satisfactory, I may say remarkable, results where potassium iodide, Ingol's solution, and syrup ferri iodidi, had signally failed. It is better in prescribing this formula to advise commencing the use of the medicine the day following that on which it is ordered, as some hours, about six to ten, are required in which to completely occlude the free iodine. I do not know the exact limit of this occlusion, but, if desired, a much larger proportion of iodine can be used than already named, and still remain odorless and tasteless so far as free iodine is concerned; though where a stronger combination is employed it would be advisable to commence with a smaller dose and increase it gradually.

AURAL HALLUCINATIONS CURED BY REMOVAL OF FOREIGN BODIES FROM THE EAR.

By W. P. SPRATLING, M.D.,

FIRST ASSISTANT PHYSICIAN NEW JERSEY STATE ASYLUM FOR THE INSANE, MORRIS PLAINS, N. J.

The following case is one of great interest, since it serves so clearly to show how dependent certain mental manifestations may be upon bodily derangements that appear simple enough when once understood.

W. C——, a man aged twenty-eight, a native of Ireland, employed as a common laborer, was admitted to this hospital, December 26, 1890. Ten months prior to his admission he began to hear "voices" and "noises," which commenced in the left ear and steadily persisted until the date of his admission here. These aural disturbances gradually became more pronounced and constant, and so annoyed him night and day that he began to suffer physically from the effect of the delusion. The following notes are taken from the house records:

"The voice is a woman's, which abuses him in the vilest language, or threatens, scolds, and pleads for caresses alternately, until his life has become unbearable, and he willingly comes here for treatment. Many times this voice tells him to kill persons or himself, but he has never had the inclination to obey its commands. Only in the silence of the night, when worried beyond measure by the constant mental torture, does he ever believe that it is, perhaps, a 'witch' something 'supernatural.' He has lately complained of dyspepsia, which he thinks is due to the influence exerted by the 'voices.' Insomnia is persistent. In the reception-room the patient made known his willingness to tell what the 'voices' just then were saying to him, which he told as follows: 'Kill me and I'll kill you,' 'I'll cut your throat,' 'I'm keeping a beer-store in your head,' 'You are a devil,' etc. He complains of pain in the left side of the head and in the stomach, and shows considerable mental depression. He is anxious to undergo any operation or form of treatment, and would even be 'deafened' as he expresses it, if in being so, the 'voice' could be silenced."

He was sent to the infirmary ward and given at night ʒ ij. of paraldehyde with ⅙ grain morphia. Upon testing his hearing the next day, it was found to be much impaired on the left side; the ticking of a watch could not be heard at a greater distance than six inches. On the right side it could be heard four feet away. The "voices" annoyed him so that he did not sleep any the previous night, notwithstanding the hypnotic he had. Some days later I decided to syringe out the left ear, in hopes of removing inspissated wax, or some foreign body, which, if taken away, might terminate the hallucinations of hearing. Using a regular Davidson syringe (as I could get no other just at the time) and, guarding against any rough contact of the small metal nozzle with the internal parts of the ear, I gently injected a pint of warm soap-suds, and was gratified to find a generous *débris* coming away in the shape of dried wax and pieces of tobacco the size of a split pea. Afterward the auditory canal was carefully dried and absorbent cotton inserted. The patient was hopeful from the first that the operation would relieve him of the "voices," and I endeavored to impress him with the fact that it most likely would. Within twelve hours after the syringe was used he told me the "voices" were leaving him, and two days later they were entirely gone. He remained here two weeks longer, but had no further trouble, and at the end of that time was discharged recovered.

Progress of Medical Science.

Salts of the Sea Air.—Dr. Friedrich, of Dresden, combats the view that winds, especially easterly winds, cause the removal of the salts from the sea water and their more or less general dispersion. The author quotes in support of his own view a large number of old and modern works, and adds to these the results of his own experiments. From these it appears that sea air as such contains no salts at all, and that its saltness, both at sea and on the shore, results from infinitesimal particles of the water dispersed by the waves and tide, while currents of air cause the further distribution of the finest saline particles. He denies that evaporation contributes to the presence of salt in the sea air. The salt found in plants near the coast has the same origin as that in plants at some little distance. It is caused by meteoric water, which always contains chlorides. These chlorides are present in greater quantity on the coast because the humidity is greater and more frequent, and larger deposits take place. The value of the sea air for therapeutic purposes is also, he believes, not due to the presence of salt, but to the greater humidity, purity, and density of the air, as well as to its more uniform composition. In view of other observations, Dr. Friedrich does not dispute the favorable influence of the greater quantity of ozone, but he lays particular stress on the fact that, to be of good and permanent effect, the treatment of serious cases, especially of chest affections, must be undertaken in a suitable climate and a favorable situation. Even there a real improvement and permanent cure cannot be expected in from four to six weeks, but requires a repetition of the treatment or a stay of some months.—*Deutsche Medicinische Zeitung.*

Experimental Peritonitis.—Dr. Waterhouse, in a series of twelve observations, confirmed the results of Grawitz, and negatived those of Pawlowsky, that a considerable quantity of a virulent culture of the staphylococcus aureus might be injected into the abdominal cavity without causing peritonitis. Also, when the staphylococcus is mixed with an untried medium, it causes no disturbance if the mass can be readily absorbed; the greater the difficulty of absorption, the more certain the production of peritonitis. Trials were made with agar-agar, gelatine, and coagulated blood, each containing the staphylococcus, and the results were positive. Pus containing the staphylococcus possessed strong pyogenic properties, due, the writer thinks, more to its contained chemical substances

than to its micro-organisms. The observation of Grawitz, that when the infection was introduced through a wound in the abdominal wall peritonitis followed, was not confirmed. When the wound was pencilled with turpentine an abscess was produced, but only in cases where the wound involved the peritoneum; if it extended only to that membrane, and not through it, no abscess was caused. When artificial effects were produced in the peritoneum, injections of the staphylococcus caused peritonitis; a similar effect was produced in animals affected with ascites. A strangulation of the intestine for some hours, similar to that produced by a hernia, invariably caused peritonitis after the injection of the staphylococcus into the abdomen or blood-vessels. The same result was reached if the coccus was injected subcutaneously, but not if it was placed in the intestine. A few observations upon man has shown that the staphylococcus may be injected under the healthy skin without danger, but that suppuration follows if the absorption is hindered or the normal conditions are altered by passive hyperæmia.—*Journal of American Medical Association.*

Damage to the Arms at Birth.—Dr. Jules Comby's interesting notes on obstetrical paralysis in the newborn are published in the *Bulletin de la Société Médicale des Hôpitaux de Paris*. In the first case there was paralysis of the left arm and œdema of all four extremities. The shoulder had presented, turning was necessary, and the mother died. Faradization cured both the paralysis and the œdema. In the second case the shoulder had also presented, turning had been performed, and the left arm was paralyzed, but there was no œdema. Faradization proved of little value; the patient, however, was several weeks old when the treatment was commenced, while the first was only eleven days old. The third case was grave. The child was six months old when observed by Dr. Comby, and suffered from total paralysis of both arms. The breech had presented, the mother's pelvis was contracted through rickets, and the child required firm traction before it was delivered. Born asphyxiated, it was not revived without great difficulty. The arms hung limp and cold from the first. The child grew and flourished, but no treatment was of avail for the paralysis; at thirteen months the child looked very healthy, but the arms hung down, perfectly insensitive even to needles. Faradization was not commenced till the sixth month, no doubt far too late.

Dr. Roullaud has already worked out the mechanism of obstetrical paralyses at birth. Spontaneous paralysis may occur through the clavicles being pushed inward during the passage of a broad-shouldered fœtus through a narrow pelvis. The fifth and sixth cervical nerves are thus compressed. The forceps may directly contuse the brachial plexus; the finger or blunt-hook applied to the axilla to disengage the shoulders may press in the clavicle and damage the cervical nerves. These nerves have been damaged, at least in one case traced into adult life, by constriction of the child's neck by a coil of umbilical cord. The forking of the fingers over the nape—a well-known manœuvre in breech cases—may cause paralysis by direct damage to Erb's point. Pressure on the shoulders and direct traction on the arms may cause damage to the whole cervical or brachial plexus. Still graver results may follow clumsy handling of the arms, shoulders, or neck of a fœtus. Thus, the branch between the sympathetic and the first dorsal nerve has been injured, the effects being seen even in the pupils. Again, a child may be maimed for life by manipulation of its arms at birth.

Belladonna in Labor.—Dr. Asher, of Lithgow, New South Wales, advises the use of belladonna in the early stages of labor, having found it of immeasurable benefit, saving considerable pain to the patient and materially diminishing the expected period of the labor. In primiparæ, after a prolonged period of pains of more or less intensity, and with but little dilatation of the os, as well as in the more intense condition of a completely rigid os, where, with extreme contractions, no dilatation whatever occurs, he has given large doses of belladonna with marked effect. He usually prescribes a reliable tincture of belladonna in doses of twenty to thirty minims every hour, or oftener; and satisfactory dilatation usually follows the first or second draught.—*The Australasian Medical Gazette.*

White Infarct of the Placenta.—Dr. Finzi, who has made a number of observations on placentæ in cases where the children were either stillborn or died shortly after birth, states that the most frequent morbid condition found was the so-called white infarct (*The Lancet*). It is occasionally confined to the lacunæ, and is due to a thrombosis occurring in them, which is caused sometimes by a retardation of the circulation, at others by necrosis of the villi. In the latter case the villi may be seen to be invested with a very delicate mosaic of exceedingly minute polygonal, transparent, nucleated cells, which may be an atrophic condition of the normal epithelium. Generally the infarct is situated in the tissue of the decidua, and consists of an exudation rich in white corpuscles and in nuclear detritus, which elements are found infiltrating the basal layer of the decidua, or collected in foci in certain points in the fibrous tissue. In other words, the so-called infarct is the result of a placentitis, and sometimes hemorrhage may be seen to have occurred in the substance of the decidua, proceeding from the utero-placental vessels. Secondary thrombosis of the lacunæ, from retardation of the placental circulation, not infrequently follows this infarct of inflammatory origin; and when this is the case there will generally be discovered a history of syphilis, tuberculosis, or pelvi-peritonitis.

Prominent Muscular Fibres Mistaken for Vesical Calculus.—Professor Antal, of Buda-Pesth, describes a case of a traumatic affection of the bladder, where the cystoscope proved of great service. A railway guard received an injury from getting between the buffers of two carriages, which produced retention of urine. When catheterized no blood was found in what was drawn off, and therefore it was concluded that there was no rupture of the bladder; the retention, however, continued for some time, but ultimately passed off. Some two years after the accident, after a beer-drinking bout, retention again occurred, and the surgeon who was called in to relieve it, feeling a rough surface in the bladder with the catheter, thought there was a calculus, and sent the man into hospital. Dr. Antal found that there was incompetence of the bladder, and that the urine was free from any abnormal ingredient. On examination with the cystoscope the internal fibres of the detrusor, or muscular coat, were seen projecting above the surface, enclosing irregular spaces. The mucous membrane covering the projecting fibres was of a pale yellowish-red tint, while that of the more deeply lying spaces was of a much darker red. The hyperæmia of the mucous membrane was by no means marked. The fundus of the bladder presented no abnormal conditions, those described affecting, however, all the rest of the internal surface. The catheter was passed twice daily, and in a very short time the incompetence was cured, and a subsequent cystoscopic examination showed that the trabeculæ had become very much less prominent. Professor Antal believes that the incompetence and "trabecularismus" which came on two years after the injury are to be ascribed to a disturbed condition of the innervation, first, of the detrusor, or muscular coat of the bladder, and afterward of the sphincter.—*The Lancet.*

A New Method of Inducing Premature Labor.—Dr. Schrader, of Hamburg, has published a method of inducing premature labor based on his observation that cold is a greater excitant of the nervous, and consequently also of the muscular, system than warmth. Continuous irrigation at the temperature of 45° F. is impracticable on account of the pain it causes, but a cold douche al-

ternating with a warm one can be borne. Dr. Schrader connects a vaginal glass tube by means of a T-shaped piece and the necessary india-rubber tubes to two irrigators, one of which contains the cold and the other the warm water. By allowing now one instrument and now the other to work, cold or warm water may be sent through the vaginal tube into the vagina. Two people are required—the one to fill the irrigators, the other to work the douche. For each sitting about twenty-four litres of cold and half the quantity of warm water at 112° F. are required, and the douche has a fall of about one metre and a half. The irrigation begins with the warm current, and before the cold water is turned on pressure is made on the perineum with the vaginal tube, so as to allow all the warm water to run away from the vagina. The same plan is observed before the change from cold to warm, by which means the alteration in the temperature as felt by the patient is always sudden. Each time about two litres of cold and half the quantity of warm water are used. The douche is generally repeated about every hour and a half until labor is active enough to make its continuance probable. Of eighteen women treated by this method exclusively, and four others who were partly so treated, one died of eclampsia twelve hours after delivery, but all the others made a good recovery. The eighteen women who were treated by the douche exclusively had twenty children, of whom fifteen, that is, seventy-five per cent., were alive. These cases required on the average ten douches and a half; in half the number three douches and a half were sufficient.—*Centralblatt für Gynäkologie.*

Syphilis of the Lung.—Dr. Lancereaux states that pulmonary lesions are rarely met with, but when seen pathologically the anatomical changes are sufficient to identify them. They occur in the form of indurations and gummata. Syphilitic sclerosis differs from tuberculous induration of the lung in many ways. It is met with, as a rule, in the lower or middle lobes rather than at the apices, and in the form of bands and fibrous tracts which are not welded together into a compact mass, but may enclose islets of lung tissue, generally more or less emphysematous. The fibrous tissue is not pigmented. The bronchi in relation with these indurations are often flattened, and the alveoli are filled with exudative fluid containing leucocytes and desquamated endothelial cells. The pleura is often thickened and adherent about such diseased areas, and the surface of the lung is puckered and furrowed in much the same manner as the surface of a cirrhosed liver. Syphilis and tubercle may be combined in the same organ, but the appearance of the sclerosed tissue is distinct in each. Cavities and the presence of fresh tubercle in other parts will aid the diagnosis. It is probable that many cases of chronic tuberculous disease have been classed in literature as syphilitic. Chronic pneumonia gives a firm, compact, indurated mass, soft and glossy to the feel, and not puckered on the surface. Leprosy of the lung is very rarely seen, and the characteristic bacilli would serve to distinguish it. Gumma of the lung is met with rather more frequently than syphilitic induration, but is still very uncommon, and no case should be accepted as such without absolute proof. The details of a case are quoted, and from the microscopic structure of the gummatous masses Dr. Lancereaux believes that they are formed by peripheral increase from a starting-point of peri-arteritis. Fatty degeneration takes place in the centre of the mass, but the remains of alveolar walls and flattened epithelium can often be recognized. The parts around may be thickened by proliferation of lymphoid cells and congestion, and around the whole mass, which is indicated under the term gumma, there is always a zone of indurated tissue more or less firm and vascular. The fatty degeneration of the centres of the masses may lead to liquefaction, and the evacuation of the fluid thus produced causes considerable irritation of bronchi. Cicatrices are often found in the neighborhood of the gummata, and a dry pleurisy is usually set up which results in dense adhesions. Syphilis never causes a purely serous exudation in the pleura. The diagnosis by physical signs is exceedingly difficult, and the symptoms are apt to be very misleading. Cough, hæmoptysis, and muco-purulent sputum may all be present, but the absence of the bacilli from the latter will form an important element in the diagnosis. Wasting, as a rule, only occurs when the liver or spleen is attacked by the disease, and it may thus happen that wasting will be progressive while the condition of the lung is improving. The latter tends to become stationary after a while, and if other organs are not affected the prognosis is good. The suspicion of syphilis should always attach to lesions beginning in the lower parts of the lung, and slowly progressing without the production of fever.—*Union Médicale.*

Elimination of Iron by the Bile.—That iron is present in the bile has been known for a long time, but the exact quantity eliminated by this channel and its significance have perhaps been exaggerated by some physiologists. Hamburger's researches, although ten years old, are still of great importance, for he established the fact that the largest part of the iron introduced into the body, either naturally in the food, or given in the form of preparations of iron, is eliminated in the fæces, a very minute trace by the urine, and excessively little by the bile. Thus a dog, in the course of thirteen days, received 180 milligr. of iron, and in the same time 136.3 milligr. were eliminated by the fæces, 38.4 milligr. by the urine, and 1.8 milligr. by the bile. He also showed that the iron eliminated by the bile is but little influenced by variations in the amount of iron introduced by the mouth, so that the iron in the bile must be regarded as an index of the hæmatopoietic or hæmatolytic action of the liver. Dastre subjected a large dog, with a biliary fistula, to a strict dietary, and collected most carefully the bile excreted daily. He finds that the proportion of iron in the bile excreted is very variable. As a mean, it is 0.94 per cent. of the dry residue, although there are very considerable variations even in a regular and exactly similar diet, so that Dastre also finds that the hepatic iron depends more on the blood formation or blood destruction in the liver than on the alimentary conditions. The quantities of iron excreted in the bile of a dog weighing 25 kilos (55 pounds) vary from 2.34 to 0.09 milligr. per day per kilo weight of the animal.—*Archives de Physiologie.*

Intubation in Germany.—Dr Ranke, writing in the *Münchener Medicinischer Wochenschrift*, says that intubation is to be preferred during the first year of life, but that tracheotomy gives better results in older children. He considers the risk of intubation less than that of tracheotomy, if proper tubes are carefully used. The number of cases upon which he bases his comparison is rather small, and the difference in favor of tracheotomy is slight. If, in a case of intubation, it is impossible to remove the tube in eight or ten days, he advises that the operation of tracheotomy be performed.

Permanganate of Potassium in Diphtheria. — Dr. Netzetzky says that his twenty-two years' practice convinced him that the best treatment of faucial diphtheria consists in an energetic use of permanganate of potassium. The drug should be administered in the shape of paintings and gargle. The following strong solution should be employed :

℞ Potassii permanganatis..... ʒ j.
Aquæ destillatæ ..... ʒ j.
M. Sig.: To paint the affected surface every three hours.

For gargling, which is to be repeated as often, a teaspoonful of the same solution should be mixed with a tumblerful of boiled water.

In those cases in which the child is unable to gargle, the following mixture should be given internally :

℞ Solutionis hydrogenis superoxydati, two per cent. ʒ ij.
Glycerinæ..... ʒ ij.
M. Sig.: A teaspoonful every two hours.

Hypnotic Action of Atropine and Duboisine.—Dr. Ostermayer, of Buda Pesth, draws the following conclusions from a number of experiments made on the action of atropine and duboisine: 1. Atropine in doses of $\frac{1}{64}$ to $\frac{1}{32}$ of a grain is an undoubted sedative in maniacal cases, and is indirectly a hypnotic in so far as the reduced reflex irritability which follows its administration tends to favor sleep. 2. It is not to be compared with the safe and prompt action of hyocine in this respect, although the amount of depression which follows its use in medium doses is much less likewise than that which is caused by hyocine. 3. From repeated employment the organism becomes habituated to its use and the effects become accordingly less, or even may be entirely absent. 4. Unfavorable complications, with the exception of vomiting and diarrhœa in one case, are never observed. 5. Atropine frequently has, in the author's hands, succeeded in producing a sedative effect where hyocine and morphine had proved entirely inert.

From the above it would appear that atropine in certain cases may perhaps possess some sedative properties, yet there is so much to be said on the opposite side of the question that it is doubtful whether its use will ever become general. As regards duboisine, the author concludes that, in excitable conditions and various mental affections, duboisine is comparable to hyocine, and is free from any of the objections which may be urged against the use of the latter. 1. The sedative action of duboisine may be observed within ten or fifteen minutes after the injection. 2. Duboisine's prominent action is a sedative one, and sleep ordinarily follows within twenty to thirty minutes after its administration. 3. In states of extreme excitement $\frac{1}{32}$ grain to $\frac{1}{24}$ grain are required in simple insomnia, and $\frac{1}{16}$ or $\frac{1}{40}$ grain will usually suffice. 4. Symptoms of poisoning or unfavorable after effects were never noticed. 5. The action of this remedy becomes weaker under prolonged use. The remedy was used by the author in 1 per mille solution.

The author likewise claims that the system becomes habituated to the use of hyocine as is the case with atropine and duboisine. In fact, he seems to regard duboisine as quite as useful a remedy as hyocine, as regards its activity, and preferable to it on account of its greater cheapness.—*Therapeutic Gazette.*

A New Disease in Africa.—Kaoumponli is the native name of a disease, hitherto unknown to European medicine, affecting the inhabitants of Central Africa. The disease begins with a rather intense fever, followed by marked general debility and an eruption in the form of papules and pustules, and sometimes by a profuse diarrhœa. The eruption is found on the neck and in the axillæ, but seldom on the arms. On the second day the fever reaches its height, the pulse becomes hardly perceptible, and the respiration becomes slow and rather labored. On the third or fourth day the symptoms pass away and the patient awakes as from a deep sleep. The disease is, however, frequently fatal, death occurring apparently from the intensity of the fever during the first or second day. The disease is of a very contagious character, almost the entire community being attacked nearly simultaneously when once it has made its appearance. But it affects the natives only, not only Europeans and Arabs, but even negroes from the coast, being immune to its attacks.

Pyoktanin in Foot-and-Mouth Disease.—Professor Eggeling, of England, has employed methyl blue with success in the treatment of foot-and-mouth disease in cattle. His method is to syringe out the affected parts with a one per cent. solution.

Defending the Use of Opium.—In a recent debate in the English Parliament upon the cultivation of opium in India, the use of the drug was defended by a medical member named Farquharson. He said that free indulgence in opium was far less injurious than that in alcohol, and asserted that there was no finer race of men anywhere than those natives of India who used the drug habitually. England has never lacked apologists within her own borders for her inhumanity in promoting the increase of the consumption of this drug.

For the Cure of Snake-Bite.—Mr. Dinshah Ardeshir Taleyarkhan, the Municipal Commissioner of Baroda, India, has published a pamphlet in which he offers some suggestions concerning the cure of snake-bite by means of inoculations of the blood-serum of immune animals. The common weasel is, he says, proof against snake-bites, and it will attack and kill any snake that it may come across, never suffering in the slightest from the serpent venom. He suggests therefore that the blood-serum of this weasel (or mongoose?) be injected in case of snake-bite, and believes that experience will show that this is an effective antidote against the poison.

Shaving with Vaseline.—A writer in the *Druggists Circular* calls attention to the value of vaseline as a shaving cream. The beard is said to be rendered as soft as when soap is used and there is no resulting irritation of the skin.

Strychnine and Snake-bite.—A controversy is going on in the *Australasian Medical Gazette* as to the value of strychnine in snake-bite, the generally approved opinion being that it is an efficacious remedy in this accident.

Sulphate of Magnesium in Dysentery.—The following is the method employed by Dr. Leahy (*Lancet*) in the treatment of dysentery. A drachm of the saturated solution of sulphate of magnesium, with ten drops of diluted sulphuric acid, is given every hour or two until the stools have become copious, feculent, and free from blood and mucus, the temperature has fallen, and the pain and tenesmus have ceased. When the stools are normal in appearance, and number only two or three in the twenty-four hours, an ordinary astringent mixture of acid with laudanum or tincture of Indian hemp, or a pill containing extract of opium, is usually all that is necessary to complete the cure. The patients are of course dieted with the greatest care.

Faradization in Incontinence of Urine.—Dr. Jamin reports a case of incontinence in a girl aged fifteen, where internal medication had failed of any result, in which a complete cure was obtained by faradization of the urethra—the negative pole in the urethra, and the positive on the thigh.

Syphilis Not of American Origin.—It has been supposed by some syphilographers that syphilis was brought from America by Columbus' sailors on their return from the discovery of the New World, and that Europe owes this boon, as well as those of tobacco, potatoes, and cinchona, to the western hemisphere. Later investigations, however, have pretty well disproved this theory of the origin of the disease, most of the modern authorities attributing the rise of the scourge to a much earlier date. A poem on the "contagious and cursed bubo," written by Francisco Lopés, of Villalobos in Spain, nearly four hundred years ago, has recently been discovered in the royal library of Madrid and republished. In this work, published in 1498, and of course written still earlier, the author describes nearly all the lesions now recognized to be those of tertiary syphilis. This would imply that he had seen a great number of cases, and it is hardly probable that there would have been very many cases showing tertiary lesions had the disease been introduced only five years before by Columbus' companions, who returned from their first voyage in 1493.

Retro-ocular Neuritis following Influenza.—Dr. Epéron calls attention to retro ocular optic neuritis occurring as a sequela of influenza, and reports five cases of this kind that he has seen in his own practice.

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & Co., Nos. 56 and 58 Lafayette Place.

New York, June 13, 1891.

NEW RESOLUTIONS FOR FRANCE.

THE different phases of all the recent discussions before the French Academy of Medicine concerning the forthcoming depopulation of France, have been consolidated in brief in a report by Dr. Jules Rochard. The entire academic commission, consisting of Dr. Rochard, himself, Brouardel, Thos. Roussel, Roger, Guéniot, Javal, and Lagneau, are in perfect accord in regard to the new resolutions, and it is highly probable that the Academy as a body will adopt them. But how about the public authorities? One pretty sure way to shove hygiene to the wall, at least in Anglo-Saxon countries, is to season it with legislation. This is always caviare to the multitude and not to the public taste. Five of the new resolutions are well enough, so says the *Journal d'Hygiène* for March 26, 1891. But the others cause our esteemed contemporary a deep sigh for the divine principles of the rights of man, the principles of other days. Science is a meddlesome creature at best. And now, misguided possibly but with kind intent, she aims a direct blow at the great republican trilogy in the effort to replace it by that fatally prophetic word, which is nevertheless the ideal of progress—compulsion! Like the poor beggar in the opera who always had the blessed hope of sleeping in a bed, the French journal of hygiene is evidently sustained by the cheering thought that the powers that be may not enforce the laws now in the air. The ten new resolutions that are innocent enough in appearance, may contain something between the lines that is inimical to liberty, equality, and fraternity, though it is a little difficult to understand how the same petard can hoist all three.

Five of the new rules refer to compulsory vaccination, to a vaccine service, and to the isolation of small-pox patients. Evidently these are the five that meet with the approval of our French contemporary. One provides for the protection of young children, two deal with the sanitation of cities, one considers the subject of paternity, and another the regulation of prostitution and the possible mitigation of the ravages of syphilis.

All this, the whole decalogue, seems well enough in its way. A government confronted by the problem of national defence and corporate integrity is wise to catch at any straws, whether scientific or legislative. But one cause of the evil tendency in modern French life has up to the present moment been utterly ignored. This is the fact that the women of France do so much work away from the fireside and the seclusion of home. French women have not time to become mothers. To them maternity too often means a definite entailment of daily bread. The situation involves serious questions of social economics. In communities where women and children do outside work, the combined wages of a man, his wife, and his children only equal those of the man alone in districts where the husband and father is the sole bread-winner. There are abundant and reliable statistics to prove this.

It is a serious loss to a nation when a large proportion of its women do outside work and are engaged in non-original production, in work that men can do just as well. The state, if it is to remain a state, must reap the benefit of best feminine efforts. Men are more than things. To turn feminine intelligence, affection, beauty, and all the fostering care that character needs for its inspiration and development into the manufacture of things is a wicked and cruel waste. "What France most needs is mothers," said the great Napoleon. And to day the French can repeat his words with bitter emphasis. Their women have engaged in every kind of career, from the construction of frills and furbelows up to that of highest excellences in literature and art. And it has not paid. Such social order is only seemingly progressive. It marks an epoch, a stage of pure expediency, but not necessarily an advance except in comparison with tyrannous times.

The forthcoming depopulation of France may be an affair of medicine and politics. It is evident that it has a social economic side as well; and to be successful, all radical schemes to increase the birth-rate must include a consideration of this important factor.

SHOULD HOSPITAL SUPERINTENDENTS BE PHYSICIANS?

THIS question comes up periodically in both the daily and medical papers. It is somewhat difficult to answer with an unqualified yes, or no. The duties of the office going under the name of superintendent vary much in different institutions. To any one familiar with the workings of our large metropolitan institutions, it is manifestly impossible for any one man to care for both the business and domestic departments on the one hand and the actual detailed management of the patients on the other. Either division of duties requires the entire time of one person. There seems to be an impression abroad that much of the alleged "red tape" of our hospitals is due to the fact that in the majority of instances the superintendent is not a medical man. This we think a wrong view. With us the resident house physician or surgeon is the executive officer of the medical board as apart from the superintendent who represents the trustees. The superintendent is of course the deciding power in doubtful cases. If he is to look out for the patients, he must delegate the management of the domestic and material departments to a subordinate. If he cares for the latter, his management of the former must be nominal rather than real.

It is a great problem in charity administration to accomplish the greatest results with the least possible

duction and spread of contagious disease. We have a National Board of Health, it is true, and we have a competent army, navy, and marine hospital medical service. But the control of the country's health in its broadest sense, is at present exerted along too many channels to be of the highest possible efficiency. The advantage of having one central officer to whom all questions could be referred is apparent. When sudden epidemics arise or other emergency where prompt action is necessary, quicker means can be taken to bring preventive measures into play from this centralization of authority.

There is, however, a great objection in our mind toward the establishment of a new national department. We think it a weak plea to allege that such action would give greater prominence to the profession in general, and would be an acknowledgment of its worth, more fitting than any hitherto made. The country at large has never withheld its due meed of praise from the meritorious services of its physicians. In no land so much as in our own does the worthy possession of a medical degree meet with more cordial feeling. It is only among the lower orders of our foreign population that the province of the health officer is disputed. Our custom of changing cabinet officers every four years would bring the position into politics, and we should have the humiliation of having physicians discussed not with reference to their scientific attainments but with reference to their "availability," and "power" to bring their own State into line.

We have too many office-holders already without the addition of another department with its head, chiefs of divisions, clerks, messengers, etc. At the same time it may well be questioned whether or not the management of the country's health cannot be carried on more advantageously than at present. Plans well enough for a century ago may not be the best for to day. As to the direction these plans shall take, is a matter for long and thoughtful consideration. It would have been better if the Association had considered the matter longer in committee before taking public action. We are apt to forget the word cabinet does not occur in our national constitution at all. For many years there were only four departments. By 1849, the seventh had been formed. In 1888, the eighth and last, that of agriculture came into existence. Many patriotic citizens have had serious doubts as to the advisability of this latter proceeding. Yet, as this is essentially an agricultural country, such a department would seem at least justifiable. But the office of the cabinet is simply that of an advisory board to the President. It is an application of the principle of the division of labor to the carrying on of the government. These positions though always filled in the main by worthy men are yet in spite of all the growth of civil service ideas, political plums to be dealt out for party services. To add one more to the basket would harm rather than benefit our profession and immensely lower its dignity.

There is, however, room for this question—Could not a new bureau be created in one of the departments already existing; its head to be responsible to the President through the medium of only one man, the corresponding cabinet officer. The tenure of office of the new official should be independent of all the coming and going of parties. In certain lines already we find such a state of affairs, as in the Smithsonian institution. Let us rather find our political ambition in fulfilling our duties as citizens in loyalty to our local societies and health boards. So far as we have observed, the new demand comes from the western section of the country alone. That it will be granted, no one, even its proposers can hardly expect. They must bring forward stronger arguments. They have not yet made out a case.

THE ABORTIVE TREATMENT OF SYPHILIS.

The loathsome nature of pox; the great difficulty and uncertainty of thoroughly eradicating the disease from the system, when once firmly established, has made the dream of its early cure a pleasing one. The abortion of gonorrhœa has received a comparatively greater amount of attention, but when we stop to consider the dangers attending the present methods deemed necessary to effect this purpose, the freedom from systemic infection, and the possibility of bringing about a cure within a reasonably short time by safer means, we realize how much more to be desired would be a sure method of stopping short a syphilitic infection. For two hundred years excision of the chancre has been practised, in the hope, at times apparently realized, that in removing the initial lesion of the disease the system would escape. Strange as it may seem, after these two hundred years, we cannot yet say just what valuation should be placed upon the method. Some observers have claimed [illegible] while others have seen only failures follow

diabetes, albuminuria, etc. These rules for undertaking the excision were given three years after the author had expressed his belief in the inutility of the operation. His subsequent experience has, however, led him to regard the success of abortive effort as a possibility. He relates a case in which a lesion believed by him to be a true chancre was excised in 1884 (the woman from whom it was contracted being under his care, and surely syphilitic). The patient was kept under constant observation for about four years without treatment and never showed any further signs of syphilis. Leuger has communicated a similar instance.

Mauriac already in 1881 expressed his belief in the inutility of this attempted abortion, claiming that excision does not attenuate the near or remote consequences of the intoxication.

Wickham points out quite justly that a well-established true chancre may at times not be followed by secondary and tertiary accidents, or may be accompanied by very discrete lesions only, and hence an error may enter into deductions drawn from the patient's freedom from symptoms after excision. It would, however, not be at all likely that any large number of these mild cases would occur in a given series of excisions.

While it is too much at the present time to claim with Diday that if the excision does not succeed it is because it was not done completely enough, it would still be well for future investigators to make sure that they operate early enough, and include in their cut sufficient surrounding tissue to make it reasonably certain that any outlying cells, bacilli, or virus, which might still be harmful to the system have been removed along with the indurated lesion.

News of the Week.

A Society of Hygiene in Havana.—Dr. D. Antonio Gonzalez Curquejo, of Havana, proposes the organization of a Society of Hygiene in Cuba. The idea meets with hearty approval by *El Repertorio Médico Farmacéutico* and *La Revistà de Ciencias Médicas*, respectively the leading pharmaceutical and medical journals of Cuba. Some recent contributions, from Sr. D. Francisco Paradela on the causes of insalubrity in the Port of Havana, and showing industrious research, cannot but give an impetus to the proposed society. The Section in Hygiene in the Cuban Medical Congress which meets in January next may serve as a convenient starting-point for the new organization. The intimate maritime commercial relations between our own ports and those of Cuba invest all sanitary progress in the latter country with peculiar interest

The Ohio State Medical Society.—The forty sixth annual meeting of this Society will be held in Sandusky, O., on June 17, 18, and 19, 1891. The programme is a very full and varied one, and contains the titles of thirty-five papers to be read during the session.

Honors for Dr. Lassar.—The French Government has conferred the Order of the Legion of Honor on Dr. O. Lassar, General Secretary of the Tenth International Medical Congress, held at Berlin in August, 1890, in recognition of his "great and successful labors" in the organization of the meeting.

Memorial to Professor Nussbaum.—A committee, which includes most of the leading members of the medical profession in Munich, has been formed for the purpose of erecting a fitting memorial of the late distinguished surgeon Professor von Nussbaum.

Comparative Cost of Medical Education in England and America.—According to the estimate of the Secretary of the Illinois Board of Health, the average fees for the eleven London schools are, exclusive of the examination fees, £118, 5*s.*; for the provincial schools £98. In addition, each student has to pay from 10*s.* to £3 matriculation to one of the degree-granting bodies; from £1 to £15 for the first examination; from £1 to £10 for the second; from £2 to £15 for the first degree or qualification examination. In some of the colleges in the United States all the fees do not amount to $300, and in at least one the whole course of study and the diploma can be had for $138.

Somewhat Uncanny.—The daily papers announce that Dr. Rachel Tenny, of Chicago, was called to Kansas City to treat her daughter. The patient gradually sank, and died in a few weeks. She was conscious to the end, and discussed her own post-mortem and her subsequent cremation. The post-mortem examination was conducted by the mother. The daughter had expressed a wish to be cremated, and the mother brought the remains to St. Louis for that purpose. The incineration took place today under the mother's direction.

A Death from Hydrophobia caused by the bite of a rabid cat is reported to have occurred at Asbury Park last week. Pet cats are now being closely watched.

Compressed Air and Creasote.—The technique of this treatment for consumption recommended by Professor Sée is as follows: "The patient is shut up in a metal chamber, hermetically closed, and compressed air, passed through creasote and eucalyptol, is made to enter slowly. The air in passing through these liquids is saturated, and arrives charged with a large quantity of these medicaments. The pressure must be slowly increased, and should not exceed a half atmosphere. The speed of delivery of the air saturated with the medicated vapors is from fifteen to twenty cubic metres per hour for a space of five cubic metres of capacity. The length of time the patient remains in the chamber is usually two hours, sometimes three or more, and no inconvenience ensues as the result of this procedure. The inhalations are made daily or more frequently." Professor Germain Sée has tried this method in twelve cases, of which one was a case of apical bronchitis, a second was a case of fetid bronchitis, and the remaining ten were genuine cases of tubercular phthisis, all of which, with one exception, had arrived at the stage of softening. The results obtained would appear to be surprising, a marked amelioration being in most cases observable, not only in the amount and character of the expectoration, but in the general constitutional condition, and in some cases, though not in all, a corresponding improvement in the physical signs. It seems to us that the treatment is identical with the pneumatic cabinet treatment except that the patient is confined for a longer time.

Death After a Dose of Salol.—Salol is usually considered a tolerably innocuous drug, but there are not wanting clinical observations which tend to show that, under certain circumstances at least, its use may be followed by dire results. Thus a case was some time ago reported by Aufrecht and Behm in which death followed its use in acute endocarditis, and more recently Dr. Chlapowski has published in a Bohemian medical journal an account of a case in which a similar fatal result followed a fifteen-grain dose ordered to a patient who was suffering from severe gastric symptoms, and who was being examined by Ewald's method.—*Lancet.*

A New Medical Aspirant.—The Chicago *Medical Record* is the title of a new monthly publication which starts as the organ of the Chicago Medical Society. It is edited by Dr. Archibald Church, and contains a number of interesting original communications.

New Method of Treating Varicose Veins.—At the German Surgical Congress, Dr. Landerer, of Leipsic, communicated the details of a new method of treating varicose veins. This consisted in the application of a kind of truss, that was applied like a garter, and by its permanent pressure on the saphena vein effected a cure. Pressure was obtained by an india-rubber pad situated on the inner surface of the truss and filled with water. The pressure was constantly kept up until the wall of the dilated vein was ulcerated through. He had adopted this method of treatment from an observation of a deceased colleague, Herr Ravoth, who treated varicoceles by the application of a truss. Professor Bardeleben remarked that Ravoth had himself often told him that his cures of varicocele had not been permanent; he feared that Landerer's procedure would not effect a lasting cure.

Effect on Offspring of Consanguineous Marriages.—Drs. Louis and Gustav Lancry publish, in *L'Union Medicale*, the results of their investigations on this subject. Their conclusions, based on a study of sixty-three consanguineous marriages, are that the marriage of blood relations tends to the diminution of the birth-rate, but that it has no prejudicial influence upon the children born of such unions.

Financial Losses of Sir Joseph Lister.—Every member of the profession will be sorry to hear that Sir Joseph Lister has, through the bankruptcy of John Taylor, a well-known London stock-broker, lost upward of eighteen thousand pounds. It appears that Sir Joseph Lister had entrusted Mr. Taylor with the money to invest in securities, instead of doing which he applied it to his own purposes.—*Hospital Gazette.*

Medical Fellowship.—Three fellowships of $5,000 each in the Harvard Medical School have been established by a gift from William S. Bullard.

Biological Study and the Anti-vivisectionists in England.—The London correspondent of the New York

The History of Tuberculin.—In four acts:

Act 1—Eureka.
Act 2—Vici.
Act 3—Ave, morituri te salutant.
Act 4—De mortuis nil nisi bonum.
Epitaph—Fuit.

—*Medical Press.*

Alumni Association of Bellevue Hospital.—At the last meeting of the Society of the Alumni of Bellevue Hospital the following were elected officers for the ensuing year: *President*, Egbert Le Feore; *Vice-President*, W. R. Townsend; *Secretary*, William N. Hubbard; *Treasurer*, R. J. Carlisle.

Lehigh Valley Medical Association.—The eleventh annual meeting will be held at the Mansion House, Mauch Chunk, Thursday, June 25, 1891.

Dr. George P. Cady, of Nichols, Tioga County, N. Y., died May 19, 1891, of apoplexy. He was fifty-eight years of age; was a graduate of Berkshire Medical College in 1855. Was one of Pension Examiners for Tioga County. Has been President of Tioga County Medical Society for fifteen to twenty years.

Medical Association of Missouri.—At the meeting of the above association, held at Excelsior Springs, Mo., May 19–21, the following officers were elected for the ensuing year: *President*, T. F. Prewitt, of St. Louis; *Corresponding Secretary*, John H. Duncan, of Kansas City; *Recording Secretary*, L. A. Berger, of Kansas City.

Prize of the Medical Society of the County of New York.—A prize of the value of $100 is offered by the Medical Society of the County of New York for the best essay by a member of the Society in good standing

short distance from the hotel. Excursion tickets over the various railroads may be procured at nearly all the stations. The delegates (corresponding included) are invited to bring their families with them. The members of the profession throughout the State and guests from other States, are cordially invited to attend the meetings and also to bring their families with them. Further information may be obtained by addressing Henry Mitchell, M.D., Asbury Park, Chairman of Committee of Arrangements, or William Pierson, M.D., Secretary of State Medical Society, Orange, N. J. Members who desire to present voluntary papers or reports of cases will communicate by letter with Dr. H. R. Baldwin, New Brunswick, Chairman of Business Committee.

The Late Dr. Fordyce Barker.—At a special meeting of the Medical Board of the New York Cancer Hospital, held June 1, 1891, the following resolutions were unanimously adopted:

Whereas, In the death of Dr. Fordyce Barker, Consulting Physician to the Hospital, this Board has suffered the loss of its oldest and most eminent associate, whose interest in the welfare of the Hospital, shown in his address at the opening ceremonies, was fully maintained until the close of his life;

Resolved, That we hereby express our grateful recognition of his services, and our pride in the recollection of his connection with our institution, and that we tender to the family of the deceased our deep sympathy with them in their bereavement;

Resolved, That we attend the funeral services of Dr. Barker, and that the Secretary send copies of these resolutions to the family, and also to the MEDICAL RECORD and the *New York Medical Journal*, for publication.

B. FARQUHAR CURTIS, M.D., *Secretary*.

A Medical Temperance Congress.—The managers of e National Prohibition Park, of Staten Island, invite presentative medical men from all localities in the nited States and the Dominion of Canada to meet in nference on the 15th and 16th of July next, in the eat Auditorium Building of the Park. The chief object the meeting is to be the comparison of views on the lationship of physiology and alcohol. Among the ques-ns to be discussed will be the following: "What are e Hereditary Effects of Drunkenness?" "Are there y Hereditary Effects that Follow Moderate Drinking?" To what Diseases are Inebriates More Especially Exsed?" "Is Alcohol a Poison?" "Is Alcohol in any nse a Food?" "What are the Proper Uses of Alcohol a Medicine?" "Is there Danger of Producing the rink Habit from the Prescribing of Alcoholic Medines?" "How Large a Percentage of Deaths May be tributed, Directly or Indirectly, to the Use of Strong rink?" "Should Alcoholic Liquors Ever be Used Expt Under the Direction of a Medical Adviser?" It is nounced that, at this Conference, all views will be given impartial hearing, and no restraint will be placed upon e discussion save that of the time limit. Many well-own medical men have already signified their willingss to participate in such a conference. Dr. Nathan S. avis, of Chicago, will preside at the Congress, and will ake the opening address. It is hoped that delegations physicians will be sent from every town in the country. he Congress will assemble at 10 A.M., July 15th and 16th, and continue its session for two days. It is expected that arragements will be made for reduced railroad fares. All communications should be addresssed to the Secretary of the Park Association, Colonel R. S. Cheves, West New Brighton, N. Y.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, April 16, 1891.

ALFRED L. LOOMIS, M.D., PRESIDENT, IN THE CHAIR.

Is Embryotomy of the Living Fœtus Ever Justifiable?—DR. EGBERT H. GRANDIN opened the discussion on this subject with a paper (see p. 641).

As the Patient and Relatives View It.—DR. H. J. GARRIGUES thought we were not justified in viewing the subject entirely from the medical side; we must view it also from the mother's side and that of the relatives. The medical view must to a great extent depend upon statistics. These, in fact, were all that we had to go by. In this country we seldom saw the higher degrees of pelvic deformity, and most gynecologists and obstetricians necessarily had very little experience on which to base an opinion as to the justifiability of ever performing embryotomy on the living fœtus. They had to look to the experience gained in other countries, especially in Germany. All statistics previous to the time of antisepsis might be cast aside as of no practical value. Taking modern statistics, Wieder, of Berlin, had collected 215 cases of craniotomy, with a mortality of between five and six per cent. Other statistics of 135 cases of Cæsarean section gave a maternal mortality of about twenty-six per cent., and an infantile mortality of eight per cent. Leopold, the most successful of modern performers of Cæsarean section, had a maternal mortality of eight per cent., but he had also performed 92 craniotomies with no deaths. Taking these statistics into consideration, it could not be denied that Cæsarean section, even with all the modern improvements, offered dangers considerably greater than craniotomy; the chances of saving the mother were five times greater by craniotomy than by Cæsarean section even in the best hands. Laparo-elytrotomy showed a maternal mortality of seven out of fourteen cases since what might be called the tentative period, and a fœtal mortality of forty-three per cent. It must be remembered many of the children were dead before the operation. Emphysiotomy gave a maternal death of about fifty per cent. and a large infantile mortality. The only other resource was premature labor, and this was the proper thing to do if one saw the case soon enough. The mortality for the mother here was five per cent.; for the child, fifty per cent. It seemed to him that the proper course as between the several operations was to choose craniotomy, although there were, of course, exceptions. If there was a generally contracted pelvis it was better, he thought, to perform a Cæsarean section. He also thought we must distinguish between hospital and private practice, city and country practice. Where a full set of instruments and plenty of assistants were at command one would feel less hesitation in undertaking Cæsarean section. The ordinary practitioner would usually find craniotomy easier, although this operation sometimes proved very difficult. From a moral point of view, when it came to a choice between saving the mother and the child, he would not hesitate to sacrifice the child. He mentioned the fact that the Roman Catholic Church did not permit of destroying the life of the child. If the case waited until it died in utero, the mother's life would be greatly endangered. In patients of that faith, therefore, we had no choice but to resort to Cæsarean section.

Favors Elective Cæsarean Section.—DR. ROBERT A. MURRAY said that in this country we seldom found as great deformity or contraction of the pelvis as in the European countries, but we had more cases in which the child could not pass through a slightly contracted pelvis because of the large size of the head. The average size of the child at German clinics was 6.5 to 7 pounds, while here it was 7 to 7.5 pounds, which would make considerable difference in the size of the head. We had, then, to judge each case by itself, since the question of whether the child could be delivered through the pelvic canal depended not alone upon the size of that canal, but also upon the size of the head. When the child was dead, it became a question of only absolute indication. If there were sepsis in the womb, he thought it would be better to perform Cæsarean section; if the organ were actually contaminated, do hysterectomy. Embryotomy had little advantage over Cæsarean section in ease of performance. Although Leopold had had some deaths from Cæsarean section and none in embryotomy, yet the saving of child-life in the former should have some weight. He favored elective Cæsarean section, especially in hospital practice. Prior to the days of antisepsis the statistics showed that most of the successful cases of Cæsarean section in this country had occurred in country practice.

Theory and Practice.—DR. H. C. COE said that he had been called to a case very recently which illustrated the difficulty of acting out a theory. The labor had begun about thirty-six hours before, the membranes had ruptured twenty-four hours before, the head had not engaged, the child was alive, the mother in good condition, forceps had failed. The question of Cæsarean section was raised, the husband left it with him to decide, but the other physicians opposed it, favoring embryotomy. They asked him if the woman were his wife would he have Cæsarean section performed? Answering candidly, he said he would not. He then tried version, did not succeed, the child had meantime died, and he performed embryotomy. The operation was difficult, the mother's chances would probably have proven as fair under Cæsarean section. She recovered. Had the case been in hospital practice, instead of private practice, Cæsarean section would have been performed.

One of the chief difficulties in deciding on what course to pursue was that many cases in which we expected to have to resort to Cæsarean section or embryotomy were actually delivered spontaneously. The statistics of craniotomy in this country could not be compared with those in Europe, for here physicians frequently overlooked slight contractions, and prolonged attempts were made at extraction before embryotomy was resorted to, and the last operation added too much to existing shock for the patient to rally. He thought a great mistake had been made in trying to lay down positive indications for Cæsarean section or craniotomy based on the size of the pelvic diameters, leaving out of consideration size of the head. Personally, he favored elective Cæsarean section in hospital practice, but it seemed a question whether it would in this country ever be adopted in private practice.

Embryotomy Safer.—DR. W. T. LUSK said he could hardly express his own views better than Dr. Garrigues had done. Success with Cæsarean section had not come to that point where we could say to our patients conscientiously that "this operation has its dangers, and embryotomy has its dangers, and they are so nearly equal that we would advise you to choose the former, whereby you will not only stand as good a chance of life yourself, but also of having a living child."

It was not true that Cæsarean section was attended with as little danger as craniotomy; it was an error to convey that impression to the profession at large. Of course, in large hospitals where the organization was perfect, some marvellous results had been obtained from Cæsarean section, but in the same hospitals there had been no mortality from embryotomy. As to his own experience with Cæsarean section, his first patient recovered easily, and he felt much encouraged; his second patient, although she had been in labor six days, recovered after a protracted illness; the third patient died, the cause of death being in the bowel; another patient died, though in good condition for three days after the operation. The autopsy revealed nothing. He thought we would do well to get eighty per cent. of recoveries from Cæsarean section, whereas after ordinary laparotomies we

could expect ninety-five per cent. of recoveries or more. Cæsarean section required more skilled assistants than craniotomy. Under these circumstances we could hardly go to families and enforce a rule to carry out Cæsarean section.

Weight of Native and German Children at Birth.—Dr. Garrigues said with regard to the statement that children here weighed at birth 7 to 7.5 pounds, while German statistics gave their weight as 6.5 to 7 pounds, would make them out of about equal weight, for we had to add about one-seventh to the German pound to convert it into the English equivalent. He had found on weighing a number of children born here of immigrants that their weight was about that of children of American parentage.

Embryotomy on the Living Fœtus Sometimes Indicated.—Dr. Charles Jewett sent a communication which was read by Dr. Grandin. He said he would perform embryotomy on the living fœtus because the safer operation under certain rare emergencies, such as the necessity for rapid termination of labor in the interests of the mother; where the mother was exhausted, or otherwise rendered unable to undergo an abdominal operation; where the conditions were not favorable for the child subsequently. In choosing between the two operations, account must be taken of the skill of the operator. The general practitioner unaccustomed to laparotomy had better undertake embryotomy.

Dr. Grandin said that statistics showing a mortality of twenty-five per cent. was sufficient to condemn Cæsarean section, but it must be remembered that in such cases the operation was not elective; it was resorted to only after the mother had been submitted to much shock and exhaustion from attempts at version, etc. He simply contended as yet for elective Cæsarean section in hospital practice. He thought that under circumstances of hospital practice it would soon show a mortality as low as ten, perhaps as low as five, per cent. As to the relative difficulty of Cæsarean section and embryotomy, he had found the former very easy, while the latter in his slight experience had proven very difficult. Then the chances of lacerations, septic poisoning, and even serious injuries as such, were marked in embryotomy.

Dr. C. A. Von Ramdohr, who arrived late, asked permission to reopen the discussion, and read the following:

1. Embryotomy of the living fœtus is justifiable, and its justifiability will hardly be disputed by any obstetrician, if the fœtus be (*a*) a hydrocephalic infant; (*b*) the head be engaged in a malposition (face mento-posterior; large head occipito-posterior); (*c*) the labor be of long duration, with either a suffering mother (pulse or temperature), or a weak child (difference of thirty beats during observation), where an attempt with forceps has proved in vain; (*d*) if after version the disproportion of fœtal head and maternal pelvis prove too great.

2. This discussion will, however, as four of the six announced speakers of the evening are connected with the Maternity Hospital, and are avowedly in favor of a relative indication of Cæsarean section, hinge on its justifiability, and here a different indication ought to be established between expert obstetricians and general practitioners.

(1) While a relative indication is permittedly justifiable, and may be imperative to the obstetric surgeon who can choose his time, his assistants, and has got all the appliances of a well-regulated hospital plus his laparotomy experience at his disposal;

(2) It ought to be declared malpractice for a general practitioner, unless furnished with all the requisites similar to the above, to put a relative indication for Cæsarean section as long as embryotomy is practically without danger to the mother, while Cæsarean section still represents a mortality of more than seven per cent., and as long as the fathers of modern Cæsarean section, Leopold and Sanger, have not agreed on the relative indication.

Stated Meeting, May 7, 1891.

Alfred L. Loomis, M.D., President, in the Chair.

Observations on the Use of Koch's Tuberculin in the Treatment of Pulmonary Tuberculosis.—Dr. Kinnicutt opened the discussion with a report of the results of treatment with tuberculin in cases of pulmonary and laryngeal tuberculosis in St. Luke's Hospital up to the present date. Forty two patients suffering from various forms of tuberculous disease had been inoculated under his personal supervision since December 10th. Of these 13 were cases of pulmonary tuberculosis, in 6 of which evidence of a tuberculous affection of the larynx also existed. The cases were divided into groups, viz.: 1. Cases in which notable improvement had occurred both in the pulmonary and general condition. 2. Cases in which either no improvement had occurred, or improvement in certain respects had been observed, and not in others. 3. Cases in which either distinct deterioration in the condition of the patient or progress of the disease accompanied the inoculations. The cases were described in detail and diagrams were exhibited, showing the changes in the laryngeal lesions, and also indicating numerically the number of bacilli found in the sputum in successive examinations during the period of treatment.

Five cases were included in the first group, all presenting on admission the physical signs of the first stage of pulmonary tuberculosis. Three of the patients had been discharged from hospital with cough and sputum practically absent, as well as bacilli. The improvement in the general condition and weight, and in the physical condition of the lung was notable in all. Two patients still remained in hospital under treatment. In these a similar improvement had occurred.

The second and third groups each embraced 4 cases. In one of the cases in the second group the laryngeal lesion had shown distinct improvement, in one the disease, similarly located, had progressed.

In the third group a striking example was given of the rapid development of a massive hepatization (catarrhal or caseous), followed by excavation, during and following the period of inoculations. The physical signs on admission, in this case, were those of the first stage of the disease. In a second case in this group, cardiac and renal disease were present before inoculation, and the discontinuance of the treatment was necessitated on account of these complications.

A few of the impressions which Dr. Kinnicutt had received from an experience of nearly five months in the treatment of various forms of tuberculosis with Koch's fluid, were summarized as follows:

General Impressions.—Tuberculin may be regarded as possessing marked elective affinities for tuberculous tissue. Its value in differential diagnosis must be considered as relative rather than positive. Doses of minimum strength, gradually increased and given at longer intervals than was originally advised, constitutes the safest and probably the most efficient method of its use.

Impressions of its Effects in the Treatment of Pulmonary Tuberculosis.—Beneficial effects from the use of tuberculin are apparently restricted to pulmonary disease in its early stages. In such forms of tuberculosis the most careful study of the individual, of the history and physical signs of disease previous to inoculation, does not permit an opinion of the probable nature or degree of reactions, or of the ultimate effect of treatment in any given case. The establishment of constitutional tolerance varies greatly in time in different individuals suffering from apparently similar lesions, and cannot be accepted as a basis for prognosis. Local reactions may continue to be developed under treatment, in the entire absence of constitutional effects as indicated by the temperature curve.

Tuberculin is apparently capable in certain exceptional cases even of incipient disease, of exciting pneumonic processes (catarrhal and caseous hepatization) of varying degrees of intensity. Whether such processes are due to

the conveyance into other parts of the lung of material affected by the fluid or by liberated bacilli, or are excited in some other manner, is uncertain. The production of hæmoptysis by tuberculin is comparatively rare. Its use necessitates the greatest watchfulness and entails much anxiety on the part of the physician.

In conclusion, it is my distinct impression that tuberculin is capable, in the early stage of pulmonary tuberculosis, of effecting a greater degree of improvement in the physical condition of the lung, and in more advanced disease, in many of the accompanying symptoms, than has been observed under any other method of purely medical treatment. Its sphere of greatest usefulness will probably be found in its combination with other methods of treatment.

The above impressions must be regarded as liable to modification with continued and more extended clinical study. They find expression only after the first enthusiasm excited by Koch's discovery has passed away, and are the impartial outcome of daily and laborious observations extending over a period of several months.

The discussion was continued by THE PRESIDENT, with a summary of the results obtained by him in Bellevue Hospital. Thirteen cases of pulmonary tuberculosis were treated by this method, 8 being in the stage of consolidation, 2 in the stage of consolidation with softening, and 3 in the stage of softening with excavation. The average age of the patients was twenty-eight years, and the average amount given at each injection, 1.9 milligr., the largest number of injections given in any one case being 77. The condition of every one of these patients was found at the end of the treatment to be improved, and the average gain in weight was 8½ pounds. In four of the cases, cough and expectoration almost entirely disappeared, and in all but two the number of bacilli in the sputum was diminished. In every case the physical signs showed, for from four to twelve days after the first injection, that the activity of the pathological processes in the lungs was greatly increased; but this would gradually subside, so that at the end of the third week, all signs of activity would have ceased, and the diseased areas would give indications of the arrest of the disease. Of the two cases in the second class, one died of disseminated tuberculosis; the other case gained 4½ pounds, the night-sweats became less frequent, the expectoration more abundant, and the bacilli more numerous. Four weeks after stopping the treatment, the physical signs indicated a large cavity at the original seat of the infiltration. In the four cases comprising the third class, the average age was thirty-five years, the average duration of the treatment eleven weeks, the average dose 0.7 milligr., and the average gain in weight, 9 pounds. The cough, the amount of daily expectoration, and the number of bacilli were not appreciably changed in most of these cases, but in all the pathological processes became much more active after the second injection. In two the moist sounds disappeared, and in one there was an extension of the disease.

His experience with this treatment had led him to conclude that tuberculin was an agent capable of exciting active changes in tubercular areas, the nature and extent of which depended upon the amount of fluid employed, and the frequency of the injections. If small doses, 0.1 milligr., were injected at long intervals the reaction would be slight, but the injections should never be repeated until the activity so induced in the tubercular areas has subsided, and then, if the patient be well nourished, it will often be found that there is an arrest of the phthisis. In this connection, he wished to state that he knew of no method which so effectually maintained the nutritive processes in these patients as the treatment with the pneumatic cabinet, as advocated by Dr. Quimby. Another point worthy of note was, that the number of bacilli in the sputum was not a reliable indication of the effects of the tuberculin on the phthisical process. He had found that the bacilli usually diminished in numbers, but never entirely disappeared, nor was it necessary that they should do so before a case could be considered as cured, for he had seen cases which had been cured by climatic treatment—in one instance as long as ten years—in which the bacilli could be found in the sputum, notwithstanding that the patients appeared to be in perfect health. While in the majority of cases he had observed an arrest of the phthisical process follow the treatment with tuberculin, it was too early yet to say whether or not this improvement was likely to be permanent. In a minority of the cases, the activity excited in the original tubercular area had been followed by a rapid development of new areas of disease, and in two instances by signs of general acute tubercular infection.

DR. H. N. HEINEMAN spoke of the observations which he had made in the Mt. Sinai Hospital, on twenty-two cases of pulmonary phthisis. Fifteen of these were in the second stage, and four presented cavities. Of the latter, one was markedly improved, one slightly, and two were not benefited by the treatment. In one case, giving a history of twenty-five years of cough, and presenting the physical signs of a chronic fibroid phthisis, after the treatment had been discontinued for several weeks the patient had for the first time a pulmonary hemorrhage, and these were repeated several times in the course of the next few weeks. In two other cases hemorrhages were brought on by small injections of the tuberculin. In the case referred to the patient presented himself with consolidation at the left apex, and a slight encapsulated pleurisy. During the treatment the pleurisy disappeared, leaving a solidified lung, but there was gradually developed over the entire left side a tuberculous process, which finally extended over the right side, notwithstanding that only small doses of tuberculin were employed. A continuance of the treatment, however, resulted in a partial subsidence of these symptoms, and the patient was ultimately discharged, decidedly improved in his general condition. In another case, having cavities and a small tuberculous testicle, the tuberculous process in the testicle became so active that four weeks later it was deemed necessary to resort to castration, and after the removal of the testicle scattered tubercles were found all through it. He did not think the number of bacilli was of much importance in determining the amount of improvement. He wished to call particular attention to the fact that the presence of any kidney or cardiac disease was a positive contra-indication to the use of tuberculin, for the albumin was always increased by such treatment, and in one fatal case he felt sure that the tuberculin was responsible for the development of a parenchymatous nephritis.

DR. E. L. TRUDEAU contributed a paper embodying the results of his observations with tuberculin in the Adirondack Sanitarium, which in his absence was read by Dr. Quimby. Eight cases had been treated in this sanitarium by tuberculin, combined with all the climatic, hygienic, and medicinal measures at command, *e.g.*, a residence in the bracing air of the Adirondacks, an out of-door life for eight or ten hours daily, irrespective of temperature or weather, careful feeding, and the administration of creasote in doses of from ten to eighteen drops, according to the digestion of the patient. Six of the cases also received treatment with the pneumatic cabinet for the purpose of expanding their lungs. The injections were usually given twice a week, and the dose was regulated so as to produce as slight a reaction as possible, and where this was marked the interval was lengthened and the dose diminished. After the initial reaction the dose was slowly increased, until from 18 to 100 milligr. were given without producing any appreciable symptoms. Four were cases of incipient phthisis, and four were more advanced and presented a daily rise of temperature. All had bacilli in the sputum. In one case, which was apparently cured, there had been several previous attacks of hæmoptysis, the sputum contained bacilli, and he had rapidly improved under the climatic treatment before undergoing treatment with tuberculin. One patient, a wo-

man with miliary tuberculosis at both apices, became much worse after the injections, small doses exciting violent and long-continued reaction, the temperature at one time reaching 104.5° F., and the pulse 160. The treatment in her case was therefore discontinued. The results may be summed up as follows: 1 apparently cured, 4 greatly improved, 2 unimproved, 1 apparently injured by the treatment. His experience with this treatment had taught him that it was not applicable to all cases, and that when rapidly pushed it always aggravated the disease. The decision as to its applicability depended not only upon the extent, but upon the type, of the disease, and especially upon the nutrition of the patient. The changes in the physical signs supported Koch's assumption as to the specific action of the fluid upon the phthisical process; but the tuberculin has no germicidal properties, and probably cannot give immunity against further infection. Koch evidently expected that it would secure temporary immunity, but Dr. Trudeau's own experiments on animals in this direction had proved uniformly unsuccessful. The success or failure of the treatment will depend upon our efforts to stimulate and support the nutrition of the patient.

Dr. C. E. Quimby prefaced his remarks by the statement that he had been attentively studying the effects of the treatment with the pneumatic cabinet for the past five years, and he had come to the conclusion that acute phthisis could be arrested in fifty per cent. of the cases, and that fifteen per cent. of the subacute cases would also be arrested, while the cases which had reached the third stage were always relieved. Bronchial hemorrhages are almost always arrested, and usually do not return, and in a series of two hundred cases he had seen only one in which hemorrhage occurred after the use of the cabinet, although many had had hemorrhages previous to its use.

He had treated six cases with tuberculin combined with the use of the pneumatic cabinet. The first and second had localized consolidation at the apex, the third and fourth were cases of diffused tuberculosis; the fifth showed diffuse infiltration with one or two areas prominently affected, and the sixth had extensive consolidation of the right lung, with pleurisy, cough, abundant sputum, and numerous bacilli. The diagnosis in every case but the last had been confirmed by Dr. A. L. Loomis. The pneumatic cabinet was employed to expand the lungs, and by the removal of catarrhal products to prepare them for the treatment. Inoculations with tuberculin were then practised, beginning with a dose of 1 milligr., and repeating the injections at intervals of about one week, the maximum dose being 2 milligr. In this way, specific processes were established in the lungs until the physical signs indicated active pulmonary changes. The pneumatic cabinet was then employed to favor absorption, until the physical signs showed a subsidence of the activity which had been produced. Antiseptic inhalations were also employed, and every endeavor made to stimulate the patient's general nutrition. The first case rapidly improved in general health and in the physical signs; the second improved in his general appearance, but the physical signs were aggravated; the third showed a lower percussion-note and stronger respiratory sounds, and the general nutrition was much improved; the fifth case had been previously subjected to the climatic treatment, but he derived as much benefit from the use of the pneumatic cabinet with tuberculin. In the sixth case, each injection increased the inflammatory changes in the lungs, but these were rapidly improved by the use of the cabinet. Bacilli were found in all the cases. Four out of six had hemorrhages, and strange to say, none of the patients developed a tolerance for the tuberculin. He thought tuberculin was chiefly indicated where the reparative processes were adynamic. The physical signs, and not the temperature, should be considered as the guide in the treatment by inoculations.

The general discussion was opened by Dr. A. Jacobi, who said that he had already spoken upon this subject before the State Medical Society in Albany, last February, and had then detailed a number of cases with the conclusions which he had reached, and these had been printed in the Medical Record. Children require relatively large doses, but it was advisable to begin with small doses in all cases, as the therapeutic effect does not depend upon the energy of the reaction, but on the contrary, was found to be most favorable in those cases in which there was very little rise of temperature. As an instance of the impossibility of predicting the effect of this remedy upon any given patient, the speaker related the following remarkable case: The patient was a lady about forty years of age, who had had tuberculosis for at least ten years. She had had large tubercular tumors in the abdominal cavity, and had expectorated more pus than he had seen in any case for many years, and she had also suffered from night-sweats. There were two large cavities in the lungs, and the sputum contained numerous bacilli. In the early part of the winter she had a pneumonia from which she recovered, but in December and in the early part of January she had some fever, although about January 10th, when the treatment with tuberculin was commenced, she was apparently in pretty fair condition. Her husband was a physician, and watched the case constantly. Beginning with 1 milligr., which gave no reaction, the dose was increased 1 milligr. each day until she received about 40 milligr., and yet no reaction was produced. The dose was then increased by 2 or 3 milligr. each day, until, about ten days ago, she was receiving about 350 milligr. daily. Although no reaction was produced, it was noticed that her fever would fall within an hour or so after each injection, and would remain so for eight or ten hours. At first the expectoration was more abundant, but it soon became more scanty, the number of bacilli was diminished, the night-sweats and fever disappeared, the patient gained in flesh, and her general condition was decidedly better. A few days ago, she had a slight fever from a fresh attack of bronchitis, but the cavities were decidedly smaller than before the treatment, and for weeks at a time no rhonchi are present.

In general, the treatment of surgical tuberculosis with tuberculin has been disappointing. Out of 16 cases of pulmonary tuberculosis, 4 were not improved, 5 were improved, 4 were much improved, 2 were cured, and 1 died. He thought that the best treatment in the future would be a combination of the climatic treatment with the careful use of tuberculin.

Dr. E. C. Wendt said that he had employed Koch's tuberculin in 38 cases—4 of surgical tuberculosis, 7 of phthisis, 22 cases of "strumous condition," 4 of ordinary bronchitis, and in 1 healthy person. It was interesting to note that in every case, the febrile reaction was obtained, and this would seem to invalidate Koch's claim for the diagnostic value of tuberculin. In the four surgical cases the patient became a little less anæmic and the local condition improved slightly, but the general condition was not materially affected. Six of the phthisical cases were in the first stage, and one in the second. All showed a decided gain in weight and their general condition was improved, but in not a single case were the physical signs improved. In the cases classified as strumous, and which consisted chiefly of children suffering from adenitis, the anæmia was improved, but there was no effect upon the glands, or upon the rude respiration. The initial dose had been invariably one-fourth of a milligramme.

Dr. S. Baruch's experience with this method of treatment embraced sixteen cases. The injections always produced marked changes in the physical signs, and on one or two occasions a decided pneumonia, which much to his surprise had disappeared within about forty-eight hours. In one case in the first stage of the disease, having cough, night-sweats, sputum, and bacilli, there was a gain of 14½ pounds, and a disappearance of the bacilli. The case was, however, improving before this treatment. Another patient, thirty-one years of age, also in the first stage, had had several hemorrhages, and at the time of be-

ginning the injections, on December 16, 1890, there was dulness at the apex, but no tubercle bacilli were present. The last injection, of 65 milligr. was given on April 15th, and produced no reaction, and there are no decided physical signs at present. He had gained twenty pounds at the time of his discharge, April 29th, as probably cured. A nurse in the hospital who developed cough and expectoration, and had slight hemorrhages with impaired resonance and fine moist rales, was found to have numerous tubercle bacilli in her sputum. She reacted to the first injection of 1 milligr. and to the twenty succeeding ones; but the last one, of 45 milligr., given on April 1st, produced little reaction; she had gained six pounds, there were no bacilli found, and she was discharged as probably cured. Dr. Baruch thought the tuberculin had some diagnostic value, and in cases of cavity was undoubtedly beneficial.

Dr. H. S. Stearns continued the discussion by referring to the results of two autopsies which had been made upon cases dying while under the treatment at Bellevue Hospital. In both cases, in addition to the old tubercular infiltration and fibroid condition, the lungs were filled with minute and recent miliary tubercles, probably as many as from four to eight nodules being present in any square centimetre. In both cases there was also general tubercular infiltration of the abdominal viscera.

In answer to a question from one of the fellows, who had noticed in the cases under his observation marked acceleration of the pulse, and a deepening of the respirations after the injections, Dr. Kinnicutt said, in closing the discussion, that although very accurate and complete records of his cases had been kept regarding the variations in the pulse, respirations, and temperature, he had not noticed this peculiarity.

The President said that he had seen one case in which there was a great acceleration of the pulse, and a slowing of the respirations, following each injection, so much so, that symptoms of collapse were produced by a dose of one-tenth of a milligr.

He thought the consensus of opinion was, that we had in tuberculin an agent powerful for good and evil, and one requiring greater care in its use, and more extensive experience, than any other agent which had been given to us for the treatment of this disease; but he thought it would take a permanent place in the treatment of pulmonary tuberculosis, and that by its aid we would be able to save many more lives.

Dr. W. H. Draper said that in view of the fact that an Advisory Committee, recently appointed by the Mayor to inquire into the condition of the street-cleaning department of this city, had, as a result of the most painstaking labor, produced a masterly report upon the defects of this department, he thought it advisable for the New York Academy of Medicine to signify its appreciation of the Committee's labors, and endeavor by its influence to carry on the work they had so ably begun. He, therefore, moved that the Academy pass resolutions expressing its hearty approval of the Committee's work, and its cordial endorsement of the suggestions contained in their report.

Dr. Jacobi, in seconding this motion, said that it seemed that, instead of teaching the poor immigrants how to be clean, we learned from them how to be dirty, and it was particularly unfortunate that most of the dirt accumulated in the most densely populated districts.

The resolutions were passed unanimously, and a copy was ordered to be sent to the Mayor and to each member of the Advisory Committee.

The Academy then adjourned.

Olive-oil in Gall-stones.—Professor Sée is a firm believer in the efficacy of olive-oil in the treatment of gall-stones. and explains its action by supposing that the fatty acids contained in it dissolve the cholesterine of the gall-stones.

Correspondence.

CHEAP DOCTORS.

To the Editor of the Medical Record.

Sir: In reply to an article in a recent issue of the Record, entitled "Cheap Doctors," permit me to say a few words in defence of the young physicians who have, by securing positions as examiners for industrial insurance companies, succeeded rapidly in building up substantial practices, even though the fee for each examination be only twenty-five cents.

The facts are these: There are several large and well-regulated insurance companies which insure men, women, and children for small amounts, *i.e.*, from twenty-five dollars to five hundred. Some have been established for years and have proved themselves reliable in every respect. So far as this is concerned, I consider such companies a God-send to many families in poor circumstances. Without them the Potter's Field would claim a much larger number than now.

These companies, to protect themselves from imposition and fraud from those who would, if they could, insure when in the last stages of disease, employ physicians (they are generally young men commencing practice) at twenty-five or fifty cents for each examination. This examination is short, sometimes merely an inspection of children, but thorough enough to give satisfaction to the company.

The young physician in this way gains an enviable experience. He soon learns to detect an abnormal condition, and he can give as much time to the examination as he pleases. He does not interfere with anyone's business; he does not prescribe, and if he does, he charges the regular fee or nothing. And, of course, he would not, as an honorable man, prescribe for anyone under the care of a professional brother.

A smart examiner can, at even twenty-five cents for each examination, earn over one hundred dollars per month (and I have known some to do better), and will then reject ten per cent. or more of unsafe risks. He will then have time left for study, or attention to such patients as he may have in charge. "A cobbler's wages" and advantages rank as paltry compared with his.

I can refer to several prosperous physicians who started in this way, and I should consider it good luck to him who secures such a position. If capable, he will soon be able to leave it.

George E. Hubbard, M.D.

THE GERMICIDAL POWER OF THE BLOOD.

To the Editor of the Medical Record.

Sir: In your recent editorial, bearing the above title, while discussing the experiments of Von Fodor concerning the action of certain chemicals and drugs upon this function of the blood, you say, "the statement that quinine lessens the germicidal power of the blood is absolutely untrue as regards the plasmodium of Laveran at least." To anticipate any further misconceptions which might possibly arise from an erroneous interpretation of this apparent conflict between his experiments and clinical experiences as alluded to by you, I will say the blood is a compound tissue possessing several and various attributes and components. Von Fodor only corroborates in the laboratory what has long been recognized and admitted in practice, that is, quinine exerts a marked inhibitory influence over the amœboid movements of the white blood-corpuscles and that this in turn lessens their phagocytic action and germicidal powers. In addition to this, quinine also lowers the germicidal properties of the blood-serum, which is known to be powerfully influential in guarding the organism against the invasion of disease-germs.

When we recall the fact that the plasmodium of Laveran occupies the red blood-corpuscles almost exclusively, and that it has little or no influence upon the other constituents of the blood, it may be readily seen that quinine, while lessening the two main factors of germicidal action, will at the same time exert a specific and independent destructive effect upon an organism which happens to be in the vicinity. This question is apparently explicable for these reasons and there is no real discrepancy in the two opinions. All of the investigations which have been undertaken in regard to the chemical and vital actions of the blood have been fruitful sources for scientific medicine. I for one am exceedingly interested in the possibilities and probabilities of the experiments of this character and only hope that they will be the means of finally solving some of the numerous and dark problems which continually beset us.

Respectfully,

J. Wellington Byers, M.D.

Charlotte, N. C., May 12, 1891.

HOW AMBITIOUS DOCTORS ABUSE MEDICAL CHARITY.

To the Editor of the Medical Record.

Sir: I read with much interest "F. R.'s" communication in the issue of your admirable journal of 28th ult., on the free dispensary question, and permit me to say a word in general reply—not in opposition, but favorably, to that broad humanitarian principle which underlies the giving of professional services and medicines free of charge to alleviate the suffering of mankind, but in opposition to the methods of distributing the charity and to the commercial motives of those members of our profession who bestir themselves so assiduously in promoting, organizing, and conducting this charity in the shape of so called free dispensaries and hospitals.

Let me speak first of the motives, not of the philanthropists who so generously and nobly endow these institutions, but of the designing and selfish members of our profession actively engaged in their management. It has been my observation, in a general practice of over twenty years among all classes of people, rich and poor, that, as a rule, those in charge of the dispensaries have been the beneficiaries of this well-intended philanthropy rather than the poor for whom it was designed.

But by whom and for whom are these institutions established? Let me cite a case. Dr. Dispenser (this name will serve my purpose of practical illustration) is a gentleman who stands well in his church, in social and political circles, a member of one of the so-called colleges or universities in some sort of capacity, with a practice probably meagre and incidental to the unimportant duties he performs in two or three hours each week in the lecture-room or at the clinic. He may have reached middle age, or he may be a fledgling just out of college in search of a practice, to secure which he is not willing to devote that care, attention, and faithful application so necessary for success. But whether old or young he is the same person. He decides to take up a specialty of the many. Perhaps he has devoted a little time and attention to one class of diseases, and in his practice of this character he may have started, on a small scale, a free dispensary which works fairly well in bringing him to the attention of the public, and in bringing to his office a number of patients whom he would not otherwise have secured, a proportion of whom he induces to pay for his medicines or his services, both if possible. This dispensary, crude as it is, is fairly successful, but somewhat expensive. If developed and expanded he sees in it a royal road to fortune. If he has not gotten so far as opening this small dispensary he has developed the idea in his commercial brain. In either event he is hampered by a lack of means. In providing these he makes his master-stroke. He appeals to charity, and he finds a gullable public. Now his position in the church and society, and his political connections stand him well in hand. He first unfolds his plans to one of his associates in the faculty, and spurred on by his encouraging counsel he admits the entire faculty into his plans, which are readily endorsed because they will possibly put one wheel revolving in another. But the faculty cannot provide the means. Charity is called upon to render that service. The first person along this line approached is the pastor of his church. The reverend gentleman becomes sincerely enthusiastic over the prospect of the Christian work to be accomplished. The pastor, in turn, interests his fold. Church socials and festivals, or some sort of church entertainment are given "for the benefit of the free dispensary," and as charitable affairs they appeal, and not unsuccessfully, to a generous public. Perhaps some wealthy member of the congregation, as has frequently occurred, becomes interested and in a sincere wish to aid humanity he contributes liberally, often lavishly.

Dr. Dispenser's plans are successful beyond his most sanguine expectations. He is delighted and revels in enthusiasm, which is shared by the prominent ladies and gentlemen who were instrumental in organizing the church festivals, and socials, and public concerts, and who have become the trustees, or visitors, or managers of the free dispensary, now fully equipped and "prepared to do business." One of the prominent members suggests the idea, most probably inculcated by the Doctor, of a hospital, where the poor can be housed, nursed, and otherwise cared for, as well as receive medicine and surgical attention. Dr. Dispenser is naturally delighted with the idea when publicly promulgated, and the work of establishing the hospital begins. He finds that the aid derived through church and social influences would be inadequate alone to either build, equip, or maintain the hospital. Not daunted, however, he casts his eye upon the city's treasury and summons to his aid his political connections. He visits the councilman of his ward, generally a professional politician, whose aid, it seems, is available whenever the question of the expenditure of the public funds arises. Then all of the considerable influences of the various boards of visitors, managers, trustees, etc., are brought to bear, in connection with that of Dr. Dispenser, upon the City Council, and an ordinance is passed appropriating a good sized sum to the "Church Hospital and Free Dispensary" (the hospital now overshadows the free dispensary). A building site may be thrown in, as has happened. All of this is done on the understanding that a certain number of free beds in the hospital are to be at the disposal of the city. The good work of the hospital and free dispensary is chronicled abroad, first in reports in the medical journals, which are reproduced in pamphlet form for free distribution, then in the church and public press, all of which free advertising of course inures to the benefit of Dr. Dispenser, who, by the way, in the meantime has been elected a full-fledged professor in his particular specialty in one of the so-called colleges. Although professedly a great stickler for medical ethics, he does not hesitate to resort to this method of advertising, and he modestly receives the benefits derived.

Now the natural effect of these practices is to so enlarge the usefulness of the hospital and free dispensary generally (and Professor Dispenser's outside practice incidentally), that the capacity of the hospital must be enlarged proportionately. Whence shall come this needed aid? The church cannot afford to increase its already large contribution; the philanthropist has done his part nobly; the city council cannot be reasonably expected to increase its annual appropriation. Although all of his home resources are exhausted he is not at a loss for a new and even broader field of operation. He applies to the State legislature. The Professor's reputation has already preceded his application, having been thoroughly advertised through the medium of his charities. If he meets with any opposition in carrying through his appro-

priations the influences of the active and honorary boards above referred to, together with other factors best known to the Professor, are brought to bear simultaneously upon the legislature in general and upon the rural representative in particular. Delegations, composed of a [illegible]

ex
ronments. C. B.

CAN THE TUBERCULE BACILLUS BE DESTROYED BY THE PNEUMOCOCCUS?

To the Editor of the Medical Record.

Sir: Reading Dr. Moor's article in the Record of May 23d, on the theoretically ideal remedy for pulmonary tuberculosis, called to my mind a communication from Dr. N. McCabe, in the Record of January 17, 1891, in which he reports a case of acute tuberculosis apparently cured by an attack of pneumonia.

Dr. Moor, supported by clinical and post-mortem evidences, claims a decided antagonism between the bacillus of tuberculosis and pneumococcus, either chemical or dynamical. The question has presented itself to me, Can the tubercle bacillus be destroyed or rendered harmless by the artificial introduction of the pneumococcus? Experiments on rabbits or guinea-pigs ought to be able to determine that.

To show the apparent cure of one suppurating disease by the supervention of another acute disease, I will refer to two cases. About two years ago Dr. Emerson presented at a clinic at the Manhattan Eye and Ear Hospital a patient who had suffered from extensive mastoid disease, following disease of the middle ear, which baffled all treatment, and nearly destroyed the patient's life, but who completely recovered from the mastoid disease after an attack of erysipelas of the face. Ten years ago I had suppurating lymphatics of the neck, which seriously undermined my health (several of my near relatives died of phthisis and scrofula), and which persisted, in spite of local and general treatment, for upward of six months. I also had erysipelas of the face, and to my astonishment but great satisfaction my troubles ceased with the disappearance of the erysipelas, and I have had no return of the glandular trouble. Are these mere coincidences, or did the bacillus of erysipelas destroy the other microbe? I believe the latter, and am therefore led to suppose that the pneumococcus may be capable of destroying the bacillus of tuberculosis.

I have neither the means nor the ability to carry on the experiment; if others have tried and failed, they have kept it to themselves, as far as I know, and if they succeeded they have not told of it in the Record. Am I unreasonable in thinking that there may be something in this?

L. A. Fredericks, M.D.

Patch Grove, Wis., June 5, 1891.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from May 31, 1891, to June 6, 1891.

Waters, William E., Major and Surgeon. Granted leave of absence for twenty days. S. O. 122, par. 6, A. G. O., Washington, D. C., May 28, 1891.

Kean, Jefferson R., Captain and Assistant Surgeon. By direction of the Secretary of War, is assigned to temporary duty at Fort Myer, Va., until the return of Major Robert H. White, Surgeon, to duty at that post. S. O. 122, par. 8, A. G. O., Washington, D. C., May 28, 1891.

Carter, Edward C., Captain and Assistant Surgeon. Will proceed without delay to Fort Canby, Wash., and report to the commanding officer for temporary duty, relieving Major John D. Hall, Surgeon, who will proceed to Fort Sherman, for duty as Post Surgeon. S. O. 74, par. 1, Department of the Colorado, May 22, 1891.

Kean, Jefferson R., Captain and Assistant Surgeon. Granted leave of absence for one month, to take effect after the return of Major Robert H. White, Surgeon, to duty at Fort Myer, Va. S. O. 123, par. 1, A. G. O., Washington, D. C., May 29, 1891.

Huntington, David L., Major and Surgeon. With approval of the Secretary of War, granted leave of absence for three months, to take effect on or about June 15, 1891. S. O. 124, par. 2, A. G. O., Washington, D. C., June 1, 1891.

Birmingham, Henry P., Captain and Assistant Surgeon. By direction of the Secretary of War, the extension of leave of absence, on account of sickness, granted in S. O. 108, May 12, 1891, from this office, is further extended to June 21, 1891, on surgeon's certificate of disability. S. O. 125, par. 6, A. G. O., Washington, D. C., June 2, 1891.

Hall, John D., Major and Surgeon. By direction of the Secretary of War, par. 1, S. O. 74, May 22, 1891, Department of the Columbia, transferring him from Fort Canby, Wash., to Fort Sherman, Idaho, is confirmed. S. O. 126, par. 4, A. G. O., Washington, D. C., June 3, 1891.

Hoff, Van R., Captain and Assistant Surgeon. By direction of the Secretary of War, is relieved from duty as a member of the Board of Medical Officers to which he was assigned by par. 6, S. O. 78, April 7, 1891, from this office, and will, upon the completion of the duties assigned him by par. 6, S. O. 110, May 14, 1891, from this office, return to his proper station, Fort Riley, Kan. S. O. 126, par. 11, A. G. O., Washington, D. C., June 3, 1891.

Official List of Changes in the Medical Corps of the United States Navy for the week ending June 6, 1891.

Gravatt, C. U., Surgeon. Detached from Naval Hospital, Yokohama, Japan, and ordered home.

Rogers, Franklin, Surgeon. Detached from special duty at Norfolk, Va., and ordered to Yokohama Hospital.

A Hospital for Infectious Diseases in Turin.—The King of Italy gave 160,000 lire ($32,000) on his last birthday to the city of Turin to assist in the erection of a hospital for contagious diseases.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending June 6, 1891.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	10	7
Scarlet fever	204	33
Cerebro-spinal meningitis	1	3
Measles	370	15
Diphtheria	100	20
Small-pox	0	0
Varicella	8	0
Pertussis	0	7
Erysipelas	1	0
Mumps	1	0
Rötheln	0	0

An Early Proof of the Value of Vaccination.—A correspondent of the *British Medical Journal* sends to it the following extract from a French newspaper of October 3, 1804: "Six black children, the first who had ever been vaccinated at the island of Réunion, and from whom 5,000 people were vaccinated, were shipped on board the vessel Jeune Caroline, bound for one of the Seychelles Islands to perform quarantine for small-pox. The six children were three months on board the ship, eating, drinking, and sleeping with the sick; during the time of quarantine they were inoculated with the virus taken from the pustules of the diseased passengers, by large incisions made on both arms. From the report made at the time and communicated to the Central Society of Vaccine by the Minister of the Home Department, it was found that, although these six children had slept under the same blankets, and in contact with the pustules of the sick, eating and drinking out of the same vessels, and having been inoculated with pus from the patients who ultimately died of the disease, they were all preserved from the contagion, and were during the whole time in perfect health. The proof and counter-proof is one of the most severe tests ever performed, and ought to have a marked place in the history of vaccination. The fact of six children having lived in perfect health on board a small ship infected with small-pox, having on board twenty blacks with confluent small-pox—six of whom died—twenty to twenty-five others with dry crusts all over the body, with seven deaths before their arrival at the quarantine station, all packed in a small space between decks, is perhaps the most crucial test ever witnessed of preservation by vaccination."

Dr. O'Dwyer's Views on Intubation.—At the recent session of the Missouri Valley Medical Society, at Omaha, Dr. Inches, of Scribner, Neb., read a letter from his former classmate, Dr. O'Dwyer, regarding the operation of intubation. In this letter Dr. O'Dwyer gives the views he at present entertains regarding the operation of which he is the father. He states that intubation, like everything new, has been much abused and that it is a difficult operation to perform because of the celerity with which it must be done. The necessary skill can only be acquired by a great amount of practice on the cadaver. Unless this be done much suffering will be caused and many lives sacrificed. For these reasons Dr. O'Dwyer is of the opinion that the operation should not be attempted by those inexperienced in its technique, and believes that one intubationist in a city of fifty thousand is sufficient. Regarding the indications for the operation, Dr. O'Dwyer says that should death be impending from obstruction in the larynx, and should one competent to perform intubation be at hand, it should be done, otherwise tracheotomy is to be preferred as the safer of the two. He further stated that intubation will accomplish all that tracheotomy will and a great deal more, but that tracheotomy may be called for after intubation has failed should loose membrane exist in the lower part of the trachea. As a primary operation in croup when an intubationist is at hand Dr. O'Dwyer regards tracheotomy as absolutely unjustifi-

Improved Ship Sanitation.—Charles Henry Leet, Late Surgeon-Major of the Royal Engineers (England), is making a commendable fight for better ship sanitation. He claims that in the great majority of English ships it is wofully bad, and he knows whereof he speaks, as he served eight years as medical officer in six first-class passenger steamship companies. The British laws make it compulsory for the ship surgeon to report on the sanitary condition of his vessel at the end of each voyage, but owing to intimidation by ship-owners it is alleged that the law is a dead letter. In many companies an adverse report costs the surgeon his position. Dr. Leet proposes that the Seamen's Union take the matter in hand, that the seamen be instructed in the principles of hygiene, and that they make reports of unhealthy forecastles and deckhouses, poor ventilation, etc. This would insure a survey by competent authority and many of the existing abuses would be corrected. The sailor's stock in trade is his health and any reform looking to the correction of anything that endangers it is a good one.

BOOKS RECEIVED.

Transactions of the Twelfth Annual Meeting of the American Laryngological Association. 1890. 8vo. 131 pages, illustrated.

A Text-book of Practical Therapeutics. By Hobart Amory Hare, M.D. Second Edition. Enlarged and revised. 8vo, 658 pages, illustrated. Price, cloth, $3.75; leather, $4.75. Lea Brothers & Co., Philadelphia, Pa.

De l'Empyème Latent, de l'Antre d'Highmore. Par le Dr. J. Marcel Jeantry. 8vo. 137 pages. Paper. Feret et Fils, Bordeaux, France.

The Intracranial Circulation and Its Relation to the Physiology of the Brain. By James Cappie, M.D. 8vo, 188 pages, illustrated. James Thin, Edinburgh.

Collected Contributions on Digestion and Diet. By Sir William Roberts, M.D. 8vo, 261 pages. Price, $1.50. Lea Brothers & Co., Philadelphia, Pa.

Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 39, No. 25.
Whole No. 1076.

NEW YORK, JUNE 20, 1891.

$5.00 Per Annum.
Single Copies, 10c.

Original Articles.

THE PHONOGRAPH AND THE MICRO-GRAPHOPHONE AS AN ASSISTANT TO MEDICAL AND OTHER SCIENCES.[1]

BY J. MOUNT BLEYER, M.D.,

NEW YORK.

MR. PRESIDENT AND GENTLEMEN: I bring before you the results of some studies I have made in regard to the phonograph and the micro-graphophone. My object in the pursuance of these studies was to ascertain exactly the practical value of these inventions in regard to medical and other sciences. The results have been most gratifying to me, and to-night I am able to demonstrate to you such practical fruits as will undoubtedly be of great service.

Before entering upon the reading of my paper I wish to say a few words concerning the inventor of this machine. Just ten years ago, a young man entered the office of one of our leading scientific journals and placed before its editors a small and very simple machine, about which few preliminary remarks were offered. The visitor, without any ceremony whatever, turned the crank, and to the astonishment of all present the machine said "Good morning!" "How do you do?" "How do you like the phonograph?" And so the machine, speaking for itself, made known the fact that it was that wonderful instrument, the phonograph, about which much had been said and written, although little was in reality known. That young man was Thomas A. Edison. The machine was his latest invention, and the editors and employees of the scientific journal before mentioned composed the first audience to which it addressed itself.

The invention was novel, original, and apparently destined to find immediate application to hundreds of requirements; though at that time it was scarcely more than a scientific curiosity or an amusing toy. Mr. Edison, however, recognized the fact that it contained the elements of a successful speaking machine, and thoroughly believed that it was destined to become far more useful than curious or amusing. He contended that it would be a faithful stenographer, reproducing not only the words of the speaker but the quality and inflections of his voice, and that letters, instead of being written, might hereafter be spoken. He believed that the words of great statesmen and divines might be handed down to future generations by its means, and that the voices of the world's primadonnas might be stored away and preserved, so that long after their decease the magic of their tones would still remain to charm the world's ear.

These and many other things were expected of the phonograph. It was, however, doomed to a period of silence. It remained a toy and nothing more until a few months since, when it was made known to the public that the ideal phonograph had been constructed; that it was unmistakably a good speaker and excellent imitator, and that the machine which people long before believed had reached its full power, had now been refined and improved until it was capable of faithfully reproducing every word, syllable, vowel, consonant, aspirant or, indeed, sounds of any kind.

The phonograph and the micro-graphophone stand here before you, and before I come to the end of my paper I intend to illustrate by their aid the points which I wish to impress upon you. The power of these impressions I leave to your judgment.

It is not my aim in this paper to go into details concerning the construction of these machines, with the exception of a few necessary explanations without which this discussion would prove lengthy and uninteresting.

Most of my auditors have heard the phonograph and understand the principles of its construction. The simple foundation principle of the perfected phonograph, consists in the cutting of minute impressions upon the surface of a small wax cylinder by means of a tiny cutting instrument, actuated by sound-waves and returning in these same minute impressions or punctures; afterward setting in vibration a small diaphragm attached to a delicate needle-point that delves in and out of the minute impressions with inconceivable rapidity, as the wax cylinder is revolved beneath the needle-point, with the latter slightly resting upon the waxen surface.

A curious feature of the modern phonograph is the difference made in the key of the voice by an increase or decrease in the velocity of the cylinder. If the latter is turned as fast in transmitting the voice as it is in receiving, the sound is reproduced with almost mathematical fidelity. If, however, the cylinder is turned more slowly, the voice is reproduced in a much lower tone. So, on the other hand, if the mechanism is moved more rapidly the voice is reproduced in a much higher key. This curious fact enables a person to hear himself speak as if he had been endowed with different vocal organs. A contralto, for example, who sings a song into the apparatus in her usual style may hear it reproduced as she gave it, or by changing the speed of the motor, as a soprano, mezzo-soprano, high treble; or, on the other hand, as a baritone, basso, or even basso profundo. Of course, it must be remembered that there is a change in the time corresponding with the change in the key. The high treble sings so rapidly as to grate upon the ear, while on the other side, the basso vocalizes so slowly as to suggest somnolent fatigue. Strange to say, the quality of voice which the French call timbre remains unchanged, no matter what tone is employed. Even the little peculiarities which distinguish each individual remain the same under all circumstances. It seems impossible, but it is a fact, that the phonograph permits us to almost photograph the voice. The minute indentations on the cylinder can be photographed and enlarged, put on metal, and then printed. Just as each man differs from every other man in face, physique, signature, habits, and modes of thought, so does he differ also from an acoustic standpoint. A photograph of a speech prepared in the manner mentioned would be as accurate a method of indentifying a man as his photograph itself.

The study of the mechanical construction of the phonograph and the micro graphophone will not occupy for long the attention of one who has the slightest mechanical turn of mind. It is very necessary that the operator should understand the workings of the delicately constructed diaphragm and recording and reproducing needles. The resetting of such needles and diaphragms when out of repair, and the keeping of the machine in proper running order, these few points anyone can in a few hours master with little difficulty. As, for instance, in taking a record an accident may easily happen to any part of the machine, one must at all times be ready to repair, or if

[1] Read and demonstrated before the New York Medical Association, April 20, 1891.

necessary replace, any part of it, by so doing avoiding inconveniences and the frequent loss of valuable records. I advance these hints in order not only to suggest, but to prove the advantages of this machine for practical purposes. Everything about the machine is duplicable, and may be replaced at once by oneself or by notifying the company. This company has a corps of regular inspectors whose duty it is to inspect and correct every machine in use. But, as I mentioned before, it is far better to master the construction for oneself and so save valuable time and frequent losses.

I now come to the subject proper, and to discuss it thoroughly must classify it under the heads of its various uses.

The Value of the Phonograph in Medical Sciences.—For some years I have occupied myself in studying the uses to which this machine may be put in the medical as well as in other sciences, and I can say that already. in the present stage of its construction, it can be made to record many of the symptoms usual in diseases of the respiratory tract in both normal and abnormal states. For instance, the voice of singers, when in good voice, may be recorded and kept for comparison in case of any ailment, making the normal record a standard. Phonograms of tenors, baritones, and bassos may be preserved, the voices studied as to the different shades of tone and quality, and be found of value in clinical as well as in other demonstrations.

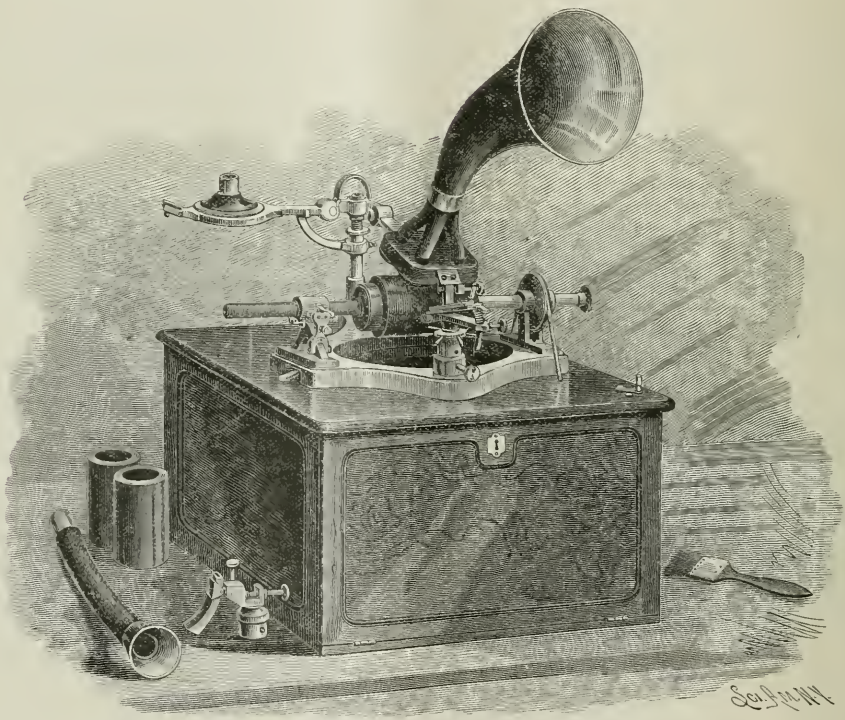


Fig. 1.—Micro-graphophone.

In Didactic Teaching.—Good records of specimen patients illustrating a certain cough—such as the whoop of whooping-cough, asthmatic cough, bronchitis, stenosis of the larynx, and in croup and diphtheria—would be of great benefit, particularly in cases of diphtheria and croup where the stenosis is marked. A standard for operation might be selected, and the students, listening through a cylinder, receive the impression therefrom as to about the correct time when operative interference becomes necessary, taking the normal breathing as a contrast to that of stenosis. With the aid of such practical demonstration in the lecture-rooms of our colleges, I am certain that our students would gain more from one lecture than from two dozen of the ordinary and prevailing ones. Taking into consideration the fact that, only too frequently, when we wish to demonstrate some particular clinical case to our students with a view to illustrating certain points of interest therein, a proper subject usually cannot be found, and words most feebly take the place of facts. But words are easily forgotten, while an illustrated fact becomes indelibly written upon the brain. Now, on the contrary, if good records of clinical cases in one's private or hospital experience be taken and kept, then living examples are always in readiness, and may be presented in the various stages of the case.

No didactic lecture need be given without illustrative effects and consequent benefit to the student, while with such assistance the student will catch clearly and readily the meaning of scientific technicalities used in connection with certain symptoms, etc.

Cabinets may be arranged as laboratories in which all kinds of records may be preserved, representing the different stages of diseased conditions of the respiratory tract—say, for example, hysterical cries, the shrieks of raving maniacs, etc. To such phonographic libraries many interesting features might be added too numerous to mention here.

The phonograph may also be applied as a corrector to restricted speech in children and grown persons, while a still further use for it is advanced by Dr. Sturges, who employs it as an acumeter of hearing.

In other sciences, for instance, the teaching of languages, the phonograph becomes a tutor—a tutor, moreover, with a correct pronunciation.

A practical application of the phonograph has been suggested by Dr. Richard S. Rosenthal, the well-known

author of the Meisterschaft system, which is already productive of very satisfactory results. That is, the instruction in the pronunciation of foreign languages. The difficulty of learning a foreign language without association and personal intercourse with one who is a native, is well known to all who have endeavored to acquire such a knowledge by self-instruction. I am told that a number of Dr. Rosenthal's pupils are already engaged in this, the ideal way of mastering foreign languages. The pupils are supplied with books and prepared cylinders to match. The method of study is to train the eye and the ear at the same time, and a pupil with his lesson on the cylinder can, by hearing it over and over again, master the pronunciation perfectly, while his eye at the same time follows the printed text which makes him familiar with the spelling and appearance of the words.

As an automatic teacher of elocution, this novel idea has been brought into actual execution, and is at the present time being practised by a number of actors and actresses. The example was set by Clara Morris, who obtained a phonograph and used it to ascertain exactly how her speech sounded. She had become convinced that no speaker could catch the tones of his or her own voice exactly as others did. It occurred to her that by speaking into a phonograph she could receive in return a correct idea of her vocal expression. Her plan succeeded admirably. She recited doubtful portions of her rôles into the machine, and had to repeat them again and again for her criticism. The story of Miss Morris's experiment leaked out, and now there can be counted at least a dozen players who, in studying their parts for next season, are calling this machine to assist them in their efforts toward correct vocalization.

Recently Mr. Godofsky, the great Russian pianist who is here on a concert tour, while listening to my phonograph reproduce several compositions he had played for us, conceived the idea of using the machine to register the inspirations that might come to him and escape before they could be transferred to paper; thus receiving them in their entirety and preserving them for future use. He is delighted with his experiment, and finds it of great benefit to him.

A very interesting and popular use of the phonograph will be the preservation and distribution of songs by great singers, speeches and sermons, the words of great men and women, the music of many parts. Through its power of reproducing the voices of animals it may also become an aid in the study of natural history. Mr. Edison has made some experiments by which he intends to determine, if possible, if certain insects emit sounds which are inaudible to the human ear because of the rapidity of the vibrations of the sound-waves. He places them for a few moments with the phonograph revolving at a very high speed, and then, with a greatly reduced speed, endeavors to reproduce any sound that may be recorded.

Its uses cannot be too greatly dilated upon. For vocal teaching, dictations, correspondence, for civil and military orders, for reading to the sick in hospitals, it is invaluable. In the composing room it will be of use to the compositor, who may set his type directly from the dictation of the machine without the necessity of copy. These are only a few of its possibilities, various other ones might be mentioned did time permit.

Mr. Edison informs us that the whole of "Nicholas Nickleby" can be recorded upon four cylinders each four inches in diameter and eight inches long, so that one of these instruments in a private circle or in a hospital could be made to read a book to a number of persons. The multiple ear-piece by which this is accomplished is shown in Fig. 1.

The little wax cylinders upon which the record is made, are provided with a rigid backing, while the cylinders themselves are made in different lengths, the shortest one inch long with a capacity for two hundred words, the next in size four hundred words, and so on. These cylinders are very light, and a mailing-case has been devised which will admit of mailing them as readily as letters are now mailed. The recipient of the cylinder has only to place it on his own phonograph and listen to the phonogram, in which he will discern not only the meaning conveyed by the words, but also the very tones and expressions of the sender; which will, of course, add materially to the interpretation of the message and convey more forcibly its meaning.

Additional Hints.—For the taking of clear records of singers, elocutionists, music, etc., an empty room with good acoustics is absolutely essential. Also clean-shaved cylinders and the correct motor speed of the phonograph.

The proper distance of the person recording from the funnel of the phonograph must also be taken into consideration. My advice to all who make or take records is to keep the phonograph in perfect condition. No set rules can be given as to how to take records, this is a matter of good judgment, and lies entirely with the operator. Making musical records is like taking photographs, you get your results according to the skill employed. Experience teaches the rest.

The micro-graphophone is the invention of Liet G. Bettini. In the construction of his talking machine his object was to record articulate speech and other sounds, and reproduce them more distinctly, more naturally, and with greater amplitude, in order to obviate the necessity of hearing-tubes, and to be sure always of having a good record made and a good reproduction. His experiments have shown him that to attain these ends there must be changes made, as much in the recording device as in the reproducer. In his recorder, instead of attaching the recording knife to one point in the centre of the diaphragm, as in other talking machines, he uses a device (which he calls a spider, because it looks like one) to which a knife is attached in the centre, on one side, with branches or legs of different lengths attached to several points of the diaphragm on the adverse side.

A diaphragm, made to vibrate by sound-waves, vibrates over its entire surface, but with different degrees of vibration at different points. Tyndall, and other masters of the science of sound, show a vibrating diaphragm or body covered with dead points, called knots, points where the vibrations are indistinct or dead. If Tyndall and other scientists are correct (which he thinks will not be disputed), if a knife is attached to an only point on the diaphragm, the point selected may sometimes be dead or nearly dead, and consequently the vibrations cannot be correctly recorded. Such a diaphragm may sometimes make a very good record, and sometimes an altogether unsatisfactory one.

Suppose a spider attached to a vibratory body by many legs of different lengths, six or eight or more. Two or three of the points of attachment may sometimes be dead points, and unable to transmit vibrations, but by the others the knife will receive all that is necessary to make a good record.

The spider gives to his device other advantages. It gives more strength to the knife in making a record, as this strength is concentrated from several points, whereas in other machines it has but one source; further, it gives to the knife great steadiness, which he considers most important; and, further yet, a great advantage is that in his device, not only are all the tones recorded, but also the half-tones, the over-tones, and the intermediate tones. This he is able to demonstrate by mathematical figures.

To recapitulate: In recording articulate speech or other sounds, he takes the vibrations from the body or diaphragm at several points or places, and communicates them by independent conductors to a common point or place, causing the record to be made from this common point or place; and the record thus obtained is a perfect one. The Bettini machine has two kinds of reproducers.

In the reproducing device, instead of a small diaphragm made to vibrate by means of a needle attached in the

centre by a point, he has a larger diaphragm divided into several smaller divisions, three, four, five, or more, and the vibrations are communicated to these different diaphragms by a spider, having in the centre, on one side, a reproducing needle, and on the adverse side legs extending to the centre of each of the smaller divisions.

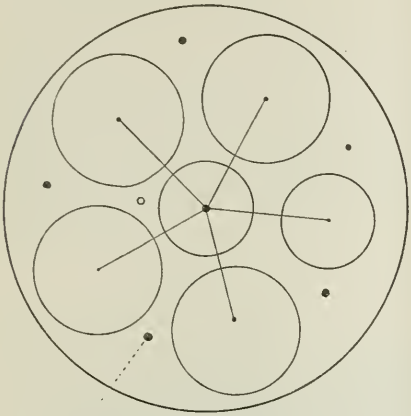


FIG. 2.—Old Reproducer Formerly in Use. *A*, points under different tension.

Thus the method of reproducing articulate or other sound or sounds consists in causing a record of vibrations to act at a single point or place, and from this point or place to communicate vibrations by independent conductors to the several diaphragms. But this is not the only important end attained by this device. It is very desirable to be able to reproduce the exact natural pitch or tone of the voice or other sound. As with a number of tuning-forks, some of which will gather vibrations where others will not, one diaphragm, also, will take certain vibrations which others are unable to take on account of tensions, dimensions, and other physical conditions of the same diaphragm.

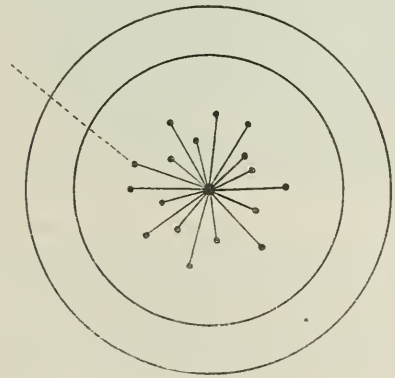


FIG. 3. -Reproducer now in Use. *A*, points under different tension.

In his device, having a diaphragm divided into several divisions of different tensions, or dimensions, or other different physical conditions, he succeeds in giving a more natural reproduction both in volume and in pitch, because in case unusual vibrations should be reproduced, he has always one or more diaphragms that will sympathize with these vibrations, and no vibration is ever lost.

It is very easily seen that a single diaphragm, which is made to vibrate in the centre by a needle attached at one point, will give a minimum result, because the diaphragm only vibrates, with appreciable results for our ears, in a small part of the centre.

A reproducing diaphragm with a spider attached by its legs at several points, will vibrate over more of its surface; the result of several diaphragms vibrating at the same time will naturally give more amplitude to the reproduction.

With such devices, the micro-graphophone gives a repro-

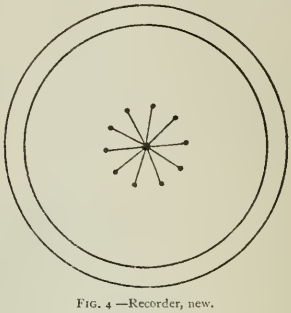


FIG. 4 —Recorder, new.

duction for which no hearing-tubes are necessary. The voice and all other sounds are always emitted into the room still retaining all their natural qualities, and each completely distinct and distinguishable.

The phonograms demonstrated: The cry of a baby of three months; the whoop of whooping-cough; complete aphonia, due to chronic laryngitis; acute laryngitis —the cough illustrating the characteristic stridulous metallic sound in the early stages; nasal stenosis and nasal twang; hoarseness; an asthmatic patient; the cough of phthisis; stuttering; imperfect speech; sneezing; normal breathing contrasted with abnormal; the stenosis of croup; languages — correct pronunciation of French, German, English, Russian, Italian; elocution and acting; singing by singers of the Metropolitan Opera House, etc.

A CASE OF LOOSE BODY IN THE KNEE-JOINT,

WITH DESCRIPTION OF THEORIES OF ORIGIN, PATHOLOGY, SYMPTOMS, AND TREATMENT OF LOOSE BODIES IN JOINTS.[1]

BY M. S. KAKELES, M.D.,

SURGEON MOUNT SINAI HOSPITAL, OUT-DOOR DEPARTMENT.

LAST September a young man, aged about twenty-one, presented himself to me with the following history: About eight weeks previous, while dancing, he fell and injured his left knee. He arose with severe pain over the region hurt, and immediately returned to his home. The next day he found the joint considerably swollen and painful, which necessitated him seeking medical advice. From the description given me I inferred he had been treated for an acute synovitis, which, he said, ran its course in two or three weeks. His family physician discharged him, apparently cured, after this time, with the exception of a slightly distended joint. This gave him no further trouble whatsoever until about nine weeks later, when he accidentally noticed something floating around in his knee. He again consulted several physicians, all of whom diagnosed a loose body, and advised its removal. On examining the knee when he presented himself, it was found slightly distended, and a flat, oblong body, about $4\frac{1}{2}$ ctm. long by 3 ctm. in breadth, could be easily detected floating freely about in its cavity. Its thickness seemed about $\frac{3}{4}$ of a ctm. So movable was it that by the simplest manipulation it could be placed in any position on either side

[1] Read before the Metropolitan Medical Society, January 21, 1891

of the patella, beneath the tendinous attachments of the extensors of the thigh. It could be turned upon itself around its longest diameter, and, in fact, was the most freely movable body of its size I had ever seen in a joint. It would occasionally, when the knee was moderately flexed, be caught between the articular surfaces of the femur and tibia, and cause the patient considerable pain. All these movements of this body naturally could only be performed when the leg was most extended. He was not contented with the advice his several physicians had given him, and consulted me for another remedy than that which would necessitate the opening of his joint and the risk of probably confining him to his bed for several weeks. I could not advise him differently, and finally, after much persuasion, got his consent to an operation. The usual necessary precautions attending operative opening of so important a joint were followed with strictest details. The joint was opened directly upon the body, when it shot out with perfect ease. The skin was sutured, an antiseptic dressing applied, the leg and thigh placed upon a splint, and after eight days the first dressing was removed and the wound found to have united primarily without the slightest reaction. He was advised to wear a light flannel bandage around his knee, as a support, for some little time, and was discharged perfectly cured.

There has been a diversity of opinion as regards the nature, structure, and origin of these foreign bodies, and as the specimen removed is such an excellent example of the character of a kind to be described, namely, of a piece of the articular cartilage of the end of the femur exfoliated, I thought it of sufficient interest to take as my subject for this paper, the "Theories of Origin, Pathology, Symptoms, and Treatment of Loose Bodies in Joints."

These bodies have been known to exist in joint-cavities ever since the time that Ambrose Paré, in 1558, removed a cartilaginous nodule from the knee of a patient, and until further investigations concerning their anatomical structure were made, all loose bodies in joint-cavities were called loose cartilages. Inasmuch as these foreign bodies may be osseous, fibrous, lipomatous, cartilaginous, or of a mixed character, such as fibro-cartilaginous, or even foreign substances introduced by accident into a joint, one readily appreciates that the title, loose cartilages was a misnomer. These foreign bodies vary in size, shape, and number. They are found in almost all the joints; but, strange to say, ninety per cent. have their origin in the knee. Why this predilection is not quite satisfactorily explained, unless it be that the synovial membrane in this cavity has more reduplications than in any other joint. The elbow is next in frequency, while the hip and temporo-maxillary joints are rarely the seat of origin.

They vary in size from those scarcely perceptible to those 4 or 5 ctm. in diameter. They may be either single or multiple. (A case is recorded where four hundred were removed from a single joint.)

Their shapes are diverse, frequently circular plates, either biconvex, or biconcave, or concavo-convex. Oval, oblong, spheroidal, and pyriform bodies also have been found.

Naturally these different shapes must be due to the manner of their origin and growth. According to their anatomical nature they may be divided into different classes.

The first are not very common, namely, those formed by organization of a clot. This can only arise from an injury whereby blood is effused into a joint-cavity. The blood may be rich in fibrin, and the clot may remain adherent to the parts which excreted it and organize there into a fibrous body; or, again, the effused fluid in an acute synovitis may also be rich in fibrin and may organize and form small tufts or bodies which have come to be known as melon-seed bodies adhering to the membrane, similar to the fibrinous exudates on mucous or serous surfaces. From the blood effused in the incised wound made for the removal of a body in a joint the organization of the blood-clots may account for the rapid appearance of numerous loose bodies.

This theory may be denied by some, but we have every reason to believe that organization of blood-clots may take place just as well inside a joint as in a wound made on the surface of the body.

The second class are found in persons who have the dyscrasia where there is a tendency to deposits of osteophytes around the joints, namely, those suffering from osteo-arthritis deformans. Those deposits lying near the synovial membrane are liable to protrude into it, as will be described.

The third class are real tumors or outgrowths from the cartilage, called ecchondrosis; these are very rare.

In the fourth class, rheumatic diathesis often is a cause of certain of these bodies, since they have been found in persons of this dyscrasia, and it is therefore reasonable to suppose that it plays an important factor as a cause; when such is the case they are usually multiple, and generally of a fibro-cartilaginous structure. Constitutional and traumatic conditions give rise to hyperplasia. The tissues of joints may also be affected; therefore, under the direct influence of either of the above, fibrin may be deposited under the basement layer of the synovial membrane. In this nodule some few cartilage cells may be deposited, which, subdividing, form fibro-cartilaginous masses, and pressing inward cause the synovial membrane to protrude with it into the joint cavity. Increasing in thickness, it extends farther and farther until it hangs by a broad fold. By the constant influence of the movements of the joint, it rolls about and is stretched until the fold becomes elongated into a pedicle, which either remains intact or is crushed off. Thus originally growing outside of the joint proper, it is now a foreign body made up of fibro-cartilaginous structure and covered with synovial membrane. This same method of development causes osteophytes to becomes loose bodies within joints.

In the fifth class, injury to a joint may chip off a piece of cartilage or bone and cause it to fall into its cavity, or it may often set up an inflammation of the articular cartilage and underlying bone and cause it to exfoliate and drop loose. The pathological condition which results in this process is as follows: The loose body has been exfoliated, just as an injury to a tooth or bone may cause it to exfoliate without evidence of acute inflammation. Of all tissues, of none could it be more expected than articular cartilage that separation of pieces should take place without symptoms of active inflammatory process. Products of inflammation cannot be easily diffused through articular cartilage on account of its anatomical structure. It is a hyaline cartilage, made of cells arranged in symmetrical order, the interspaces filled in with hyaline matter having no blood-vessels, and its structure, therefore, not easily permeable. Traumatism may set up an inflammation at its base where it joins the bone. The nutriment is supposed to be supplied in hyaline cartilage through channels which connect the lacunæ in which are situated the cartilage cells (Klein's "Histology"). These channels and lacunæ make an intercommunicatory system, which is connected with the vessels in the perichondrium and underlying bone. Products of inflammation may also find their way into these channels and lacunæ, and occlude them, thus cutting off the nutriment supply. Now if traumatism sets up an inflammation at the base of the cartilage, where it is attached to the underlying bone, the superficial portion of the articular cartilage is shut off from its nutriment supply by the occlusion of the channels at its base. The free articulating surface of the cartilage has no perichondrium; the nutriment, consequently, is furnished only from the base and that portion of the perichondrium which surrounds the cartilage where it is attached to the bone. The increased products of inflammation cause the cells around the site of inflammation to necrose by pressure, and the superficial portion of the articular cartilage is pushed off or exfoliated, and drops as a loose body into the joint.

That such bodies are true chips of normal articular cartilage can be verified by microscopical examination and by the history of these special cases. In normal articular cartilage the cells near the surface appear flattened and parallel and more numerous; they gradually, as they near the base, become spherical, and assume a more vertical direction in columns. The case cited in the beginning of this paper, where a healthy individual, from violence to his joint, without any symptoms (save the acute synovitis) following, finds, after several weeks, a loose body of such dimensions, verifies to a great extent the theory of its origin by a quiet exfoliating process. It is out of the question to presume that the original injury chipped this piece off at the time of accident, for it would immediately have been detected. The patient, after having recovered from the acute synovitis, felt perfectly well for more than two months, following his occupation as a pedlar without ever noticing any abnormal condition of his joint except a slight swelling. He never detected the loose body until after two months, and surely its size is of such a nature that, had it been chipped off when he fell, it would easily have been detected by his physician, if not himself, for such a large body could not hide itself as smaller ones are wont to do. I have described this class a little more in detail for the reason that some writers [1] claim that pieces of articular cartilage and underlying bone are never exfoliated into a joint, but that these bodies which do resemble normal articular cartilage are only heterogeneous outgrowths from the synovial membrane.

In the sixth class the heterogeneous bodies form a separate class and can be accounted for in this manner. The synovial membrane has been proven in its normal condition often to contain cartilage cells in its structure (Kölliker, "Manual of Histology"). Under morbid conditions, such as a sprain or any irritation, activity is set up in these cartilage cells, which continuing to subdivide give rise to growths projecting into joints, which are finally snipped off by its movements and become loose bodies.

It is very important to study the pathology of this class of loose bodies, as the mode of formation and growth of such substances, lying within the knee-joint especially, has been the subject of much controversy. These frequently simulate the normal articular cartilages and underlying bone exfoliated or clipped off by accident so minutely that it has been a serious question in the minds of some eminent authorities whether normal articular cartilage is ever exfoliated, but that all such bodies found in the joints are but an outgrowth from the synovial membrane. There are distinguishing features enough between these two to overthrow this theory.

1. In these heterogeneous bodies the matrix of the cartilage is fibrous, and we have a fibro-cartilaginous body, while in the true cartilage the matrix is hyaline.

2. The arrangement of the cells in true cartilage is generally regular and different from the promiscuous deposition of the cells in the heterogeneous variety.

3. Autopsies in some cases have shown that the loose bodies accurately fitted the depression which existed at the lower end of the condyles of the femur.

The concave surface of the specimen is made up of depressions and elevations, as if exfoliated off a condyle, and again its convex surface exactly corresponds and resembles the lower end or articulating surface. Such a body does not resemble an outgrowth from the synovial membrane. If such an heterogeneous body would have been rolled about in a joint for some time and smoothed off by attrition it is not likely that one side would be depressed at the expense of the other. Its history, the pathological theory of its origin, its histological as well as gross appearance are conclusive proofs that this specimen is a piece of real articular cartilage, and is another illustration that such bodies are normal articular cartilage exfoliated without acute inflammatory symptoms.

[1] Professor Humphry: British Medical Journal, 1888, p. 710.

Symptoms.—When these loose bodies are very small they give rise to hardly any symptoms, and the patient may be unaware of their existence until one of them is caught between the articulating bones. However, a persistent, painless, or nearly painless effusion into a joint is always a suspicious feature of a foreign body in it. These certainly can only then be detected by palpation, if the joint is not too much distended. If a single one is only present, and of sufficiently large size, the patient may by chance feel a mobile little swelling in his joint, which, if he tries to grasp between his fingers, slips from them and is lost to touch, probably for some days, until it again attracts his attention by its movements. From the analogy to a frightened mouse which is driven into its hole these bodies have been called by the Germans "Gelenkmous," joint-mouse.

Oftener such a foreign body is detected in a much more unpleasant manner. While following his ordinary pursuit, or while walking, he is suddenly seized with a severe pain, and unless he supports himself (if body is in knee-joint) he falls. The muscles of the limb are in a state of contraction, the joint being therefore fixed, and the patient feels that a change in the position of the limb will relieve his pain. Sometimes he is able to do this himself, or he may have to get someone else to come to his assistance. The patient then obtains relief, with probably a slight effusion from irritation to the synovial membrane which may last for a few following days. All symptoms then disappear until the body is again caught between the bones.

If such attacks come repeatedly, and even though there is no palpable evidence, it is conclusive proof that a foreign body exists in the joint, which is caught between its articular surfaces and gives rise to these excruciating pains. A subluxation of a meniscus may also give rise to the same symptoms, and may therefore mislead us in our diagnosis. If the body is freely movable it is not likely to be the meniscus. When, after careful observation, one detects a movable body in connection with a joint, one must also be certain that it is inside of its cavity, for there are often, in some patients, outside of their joints, lipomatous nodules or anomalies of the fascia which have sometimes a certain amount of mobility and have been mistaken for intra-articular bodies. But these have limited range of motion, and are always found in the same place, and what is characteristic, never disappear, but, on the contrary, can always be detected in the same situation. They do not play "hide and seek." The character of the body can rarely be made out until removed; their size often seems larger than in reality.

Treatment.—The only positive cure of the symptoms and inconveniences these bodies cause is removal. Palliative measures are often adopted, such as fixing them in some harmless portion of the joint by some suitable apparatus, as bandages, splints, etc. But these are only temporary and unreliable. The operation for their complete removal is very simple and may be performed in two ways—the direct, that is, cutting down on to the body, opening directly the joint; and the indirect or subcutaneous method.

Years ago, before antiseptics played such an important *rôle* in the treatment of wounds, the direct method was superseded by the indirect on account of the frequent suppuration which followed wounds of synovial and serous cavities. To-day, because we have learned how to clean our hands, the patient's skin, how to keep our instruments aseptic, suppuration should not follow, and the direct method has again assumed the ascendency.

The indirect method can briefly be described. A long tenotome is introduced under the cleansed skin, and freely moved about, preparing a cavity in the periarticular tissues large enough for the reception of the body. Then, with the tenotome still subcutaneous, the synovial membrane is freely opened to admit of the body being squeezed into the newly made pouch; here it may remain for a few days until we think the rent in the synovial

membrane has closed, when it may then be cut down upon and removed from its new situation. This, one can perceive, is not a very neat surgical procedure. We do not know what damage we are doing, working as it were in the dark, and at the same time we are not always sure that we are able to squeeze the body out through the subcutaneous rent.

The direct method is very simple, and meets with far better results if strict antisepsis is followed. The skin is thoroughly cleansed with soap and water, shaved and washed with ether and bichloride solution. Iodoform ether is then poured over the area or field of operation. The assistant, whose hands and finger-nails have been thoroughly cleansed and disinfected, grasps the body between his fingers and holds it there while the surgeon cuts freely down upon it, through the skin, fascia, periarticular tissue, and synovial membrane, when, with a little pressure the body is quickly squeezed out of the joint. The tract should be immediately compressed by the assistant while the operator sutures the skin. Proper dressings are applied, the limb placed on a splint, and patient put to bed. If the body has a pedicle, it must be snipped off. If the assistant carelessly allows the body to slip from his grasp, we sometimes have to introduce a fine tenaculum forceps to extirpate it. This, of course, complicates the operation. If much manipulation has been necessary, a drainage-tube would be safer inserted into some dependent portion of the joint. The after-treatment simply consists in immobilization of the joint and watching for evidences of suppuration. Should such ensue, strict antisepsis has not been followed, and the concomitant symptoms and processes require a surgical interference, the details of which are foreign to the scope of this paper.

243 East Forty-ninth Street.

A CASE OF ACUTE ANÆMIA FROM POST-PARTUM HEMORRHAGE TREATED BY INTRA-VENOUS SALINE INJECTION.

By ALVAH M. NEWMAN, M.D.,

late house surgeon of charity hospital, new york.

Maria McK——, aged thirty-four, married, third pregnancy. This patient entered the waiting pavilion of the New York Maternity Hospital, service of Dr. H. C. Coe, on the evening of November 7th, in a decidedly cachectic condition, the result of malarial poisoning of long duration. She was of a nervous disposition, and complained of general lassitude. She was in the ninth month of her pregnancy, having passed through the preceding time without the slightest difficulty. At eleven o'clock on the evening of her admission labor began. The pains were rather weak, and so continued until 4 A.M. of the following day, when they approached the normal in acuteness. At 5 A.M. the patient entered the delivery-room, the os being one-quarter dilated, *i.e.*, admitting two fingers easily. Here she was antiseptically prepared, a bichloride bath 1 to 2,000 and vaginal douche 1 to 8,000 being given.

The urine was drawn by catheter, and the contents of the lower bowel were evacuated by enema. The second stage of labor was precipitate, expulsion being effected by three or four vigorous pains at about two minutes' interval. After the birth of the child blood for the first time was seen issuing from the ostium vaginæ. I immediately terminated the third stage, expressing the placenta by the Credé method. With the birth of the placenta came an immense gush of blood, making a marked impression upon the patient and her pulse. She now became very restless, the face pale, and the pulse at the wrist weak and rapid. A hypodermic injection of 30 minims fluid extract of ergot was given in the thigh, and this was quickly followed by 15 minims tincture digitalis administered in the same way. I now introduced my hand into the uterine cavity to remove remaining portions of placental tissue, should there be any, while at the same time massage of the fundus uteri was made with the other hand. Nothing was found in the uterus, but the general relaxation of the organ was immediately noted. At this time there was no distinction between vagina, cervix, and body of uterus, since only slight contraction had taken place after the birth of the child. As kneading had little or no effect, a large piece of ice was introduced into the cavity after first being dipped into hot water to soften all sharp edges. This again made but slight impression upon the hemorrhage from the relaxed uterus. A prolonged hot vaginal douche of one per cent. creolin was next given, while at the same time the abdomen was slapped forcibly with a wet towel, a measure recommended by the late Dr. I. E. Taylor. No effect being produced by this, it was immediately followed by hot intra uterine douches of the same solution, which lessened in a marked degree the severity of the hemorrhage, but had little effect in stimulating contraction of the uterus. Creolin was used here for both its antiseptic and its styptic effect. The patient's condition was fast becoming serious—her skin was cold and clammy, her respirations very superficial, and the pulse was hardly perceptible. Hot cloths were now applied to the precordia, and hypodermic injections of whiskey, tincture strophanthus, and tincture digitalis were administered. Hot bottles were placed about the patient, and the foot of the delivery-bed was elevated. I continued kneading the uterus, endeavoring to stimulate contractions, my assistants in the meanwhile bandaging the extremities. As the patient now showed marked symptoms of collapse, vigorous treatment was urgent. Sheet lint was soaked in vinegar, and with it I swabbed the uterine cavity repeatedly, while my junior assistant applied the faradic current to the abdomen. Our efforts were not in vain. The flabby uterus was regaining its tonicity, and the outgush of blood was reduced to a tiny stream—yet it still persisted. It was not the amount of hemorrhage that caused alarm, but the precarious state of the patient from the previous loss; every drop saved gave her an additional chance for the life which was now at its lowest ebb. I introduced Cusco's speculum into the vagina, and swabbed the uterine cavity with Monsell's solution of iron, doing this, however, with great circumspection, owing to the danger of sloughing, and the resultant focus for septic infection in the uterus.

As each of the preceding hæmostatics had failed to arrest entirely the hemorrhage, this application was made as a last resort, and it was successful—the flow being completely arrested at 7.20 A.M., one hour and ten minutes after the completion of the second stage.

I now gave my entire attention to the acute anæmia which existed, and the management of this seemed even a more difficult task than that of arresting the hemorrhage. An enema was given, containing one ounce of whiskey, four drachms of sodium chloride, and milk, making in all eight ounces, at a temperature of 100° F. This enema was repeated in half an hour. Stimulation was continued principally by the hypodermic use of whiskey and strophanthus, and the administration of black coffee at frequent intervals by the mouth. By these measures the heart so improved that the pulse could be appreciated at the wrist, yet lacking the positiveness of the normal pulsation. This was certainly a pulse of stimulation, as it would gradually fail as soon as the effects of hypodermic medication passed off. It became very evident that something more was needed than these measures to keep the patient alive, and establish a circulation necessary to carry on the physiological requirements of cell life.

I had endeavored to limit the circulation to the trunk by bandaging, and elevating the extremities, but even with this limitation there was a dearth of fluids in the vital organs. As the effects of the stimulation were progressively growing shorter in duration, and the patient's condition was not improving in the least, she being exceedingly restless, her lips blanched, and her facies almost cadaveric, I determined to resort to direct infusion.

The median cephalic vein of the left arm was exposed, and two ligatures were passed around the vessel, the lower of which was tightened. The cannula of the Collins transfusion apparatus was then inserted into the vein above, and, very slowly, ten ounces of Little's solution, temperature 100° F., were infused into the circulation.

The formula of the solution used was as follows.

R. Sodium phosphate	grs. iij.
Potassium chloride	grs. vj.
Sodium carbonate	grs. xl.
Sodium chloride	ʒ j.
Distilled water enough to make	ʒ xx.

The cannula being withdrawn, the vessel was ligated, and the wound dressed antiseptically. None of the unfavorable symptoms presented which sometimes occur after such an operation. Though still compressible, the volume of the pulse immediately increased, but shortly afterward diminished. It remained fair, considering the patient's previous condition, it being now 130 beats to the minute. It was still necessary to continue kneading the uterus, and owing to its tendency to relaxation, a second hypodermic of fluid ext. of ergot was given.

The infusion of salt solution not only made a marked impression upon the pulse, but the skin lost its clammy feel, and the mucous membranes in contiguity with the skin gave evidence of slight injection. The latter was all that I could expect, since the saline solution had simply added volume to the diminished amount of blood in circulation. As the patient rallied under this treatment she became restless, complained of great thirst, and was with difficulty kept in the inclined position, even after a hypodermic injection of 7 minims of Magendie's solution. A second dose in the afternoon gave her a refreshing sleep of twenty minutes.

At 4 P.M., owing to the great thirst experienced by the patient, a high enema of salt solution with half an ounce of whiskey, making eight ounces in all, was given at the suggestion of Dr. H. C. Coe, the visiting surgeon.

This enema was repeated in an hour, and very effectually relieved the symptoms, while at the same time it improved the pulse, which had diminished somewhat in volume as a result of loosening the bandages on the extremities.

At 5.30 P.M., the pulse was 106, and fairly strong. From this time until the following morning the patient was very comfortable, occasionally complaining of her inclined position, which was gradually changed during the night, to the horizontal.

At 7 A.M. the following morning the patient was transferred to the ward, feeling very well; pulse 84, temperature 100° F. About one hour later the pulse was 100, and so remained for five days, the temperature averaging about 101° F.

During the first three days after delivery vaginal douches of carbolic acid, two per cent., were given every four hours, and intra-uterine douches of bichloride 1 to 8,000 every twelve hours. These douches were lessened in frequency toward the end of the week, when they were discontinued, as there was not the slightest evidence of fetor, although each washed away friable clots, such as are always seen after the use of iron styptics.

The medical treatment during convalescence was limited to quinine sulphate, grs. v., and fluid ext. of ergot, ʒ ss., t.i.d. For the first three days her diet was entirely fluid, comprising milk, milk-punches, egg-noggs, and beef extract, administered at three-hour intervals in small quantities. Her convalescence was rather slow, but uninterrupted. When last seen, four months after delivery, she was in perfect health. It is not the rarity of post-partum hemorrhages, or the various methods employed in arresting the flow of blood in this case, that prompts its report, but the success attained in the treatment of the resulting acute anæmia by direct infusion of saline solution.

For exhaustive diseases and collapse due to acute anæmia, transfusion promised to the theorist a brilliant advancement. But, after many attempts during the past, transfusion of blood has been, I may say, entirely suspended, owing to the various difficulties attending such procedure. The care necessary in the details of this operation, when time is most valuable, and the difficulty of finding a suitable subject from whom to obtain blood, are matters which have discouraged many firm supporters. It is true that a few cases of success have been reported, and certainly success was a possibility if the emergency could be anticipated. But how many surgeons go prepared to meet these sudden and fatal cases? Many a life has been sacrificed, no doubt, owing to the disbelief in intra-venous injections. But since the introduction of this less formidable operation in the early part of this century, for the exhaustion of Asiatic cholera, it has risen slowly but steadily in esteem, and may be well called a life-saving measure.

Of the nineteen cases reported by Dr. W. T. Bull, some time since, in his paper on intra-venous injection, thirteen entirely recovered. It postponed the fatal issue in three, and had little or no effect upon the remaining. Since Dr. Bull's writing, several individual cases have been reported by others as successful.

The injection fluid used in these cases varies slightly, Schwarz's fluid being used in ten of the nineteen cases. This consists of water, ʒ xxxij.; chloride of sodium, ʒ jss.; carbonate of soda, grs. xv. The quantity infused depends entirely upon the severity of the case—eight to ten ounces is generally infused, and repeated if necessary. In my case, the high enemata of salt solution assisted very materially, thus avoiding the necessity of a second infusion.

In the employment of this measure one point is very essential—do not delay until your patient is moribund, and then infuse the solution, feeling assured that the patient is beyond all aid.

Your conclusion is well drawn: "It was an uncalled-for operation." You may get a slight stimulation, and that is all, for your trouble. The first three cases of infusion I saw while a student exemplified the above; it is needless to state the results. I am now fully convinced that two of the three cases might have been saved by an earlier endeavor. The hypodermic syringe holds such an important place in the minds of practitioners as an emergency ultimatum, that the pathological state which they are treating is entirely forgotten. Stimulating the fagging heart cannot avail when the circulating fluid is nearly exhausted. It is useless to pump harder at a dry well.

Inject the saline solution, using a foundation syringe in the emergency, and do it early. And here we meet an encouragement to this simple operation in the statement by Schwarz, and also by von Hacker, that the hydræmia arising from the injection of a salt solution, though greater than that from blood-transfusion, persists for a shorter time; and that the regeneration of the blood-corpuscles after transfusion of blood requires more than double the time required after saline injection. It is true that one of the principal functions of the blood is lacking in this fluid, *i.e.*, its power to convey oxygen to the tissue. But since the immediate danger is due to the disturbed relation between the calibre of the vessels and the quantity of blood contained in them, and not to the loss of red blood-cells, we have in the method of direct infusion the most rational means known at present for meeting the indications.

The Time when Children are Born.—Dr. A. A. Hamilton reports, in the *Indiana Medical Journal* for April, 1891, one hundred consecutive cases of childbirth in which the exact time of delivery was noted. From this he found that exactly fifty of the children, or one-half of the entire number, were born during the daytime, or between six o'clock in the morning and six o'clock in the evening.

PRACTICAL RESULTS OF THE OPERATION FOR LACERATED CERVIX UTERI.

By H. W. MITCHELL, M.D.,

NEW YORK.

The operation of trachelorrhaphy aims in its particular object to restore the contour of the cervix uteri to its normal condition. A higher and vastly more important aim of this operation is not only to restore the contour of the cervix, but to restore its future usefulness also. This is of the greatest importance. A patient who undergoes this surgical procedure should be so far restored to her original and normal condition as to enable her to assume future pregnancies, and to undergo the act of parturition safely and successfully, and without a repetition of the former lesion. In order that this may be accomplished, it is necessary that the operation be so conducted that when parturition does occur the parts shall undergo a natural degree of dilatation to allow the safe passage of the child without incurring a second laceration of the cervical tissues. The frequency of lacerations of the cervix uteri are familiar to every physician and gynecologist. Indeed, so frequent is this accident that many gynecologists have said that the parturition act is impossible without some degree of laceration following, and if one may judge from the number of cases that come under his professional observation, even in a limited practice, this opinion may seem to be well founded. The avoidance of this accident is not always possible, even in the hands of the most skilful physician, and even when he exerts his utmost care to prevent its occurrence. This is especially true of primiparæ, for in them the cervix uteri being of a small and virginal character, cannot always dilate sufficiently to allow the passage of the child's head without producing some degree of laceration. This is more than ever true where the patient is of a strong and vigorous habit, and where the expulsive labor pains are powerful and occur at short intervals.

Subsequent confinements of multiparæ are less liable to be followed by such lacerations, yet even in these the accident is not unfamiliar to most of us, and every physician can call to mind cases where primiparæ have undergone parturition safely and successfully, and multiparæ have become the victims of this accident.

As is well known the degrees of laceration of the cervix uteri vary in severity and extent; perhaps the greater number are of the unilateral variety, the laceration involving only the tissue of one side of the os tincæ. In others the laceration is of the bilateral variety, involving the tissues of both sides of the os. In this form of laceration the severity and extent vary considerably. In some the laceration involves only the tissues extending up to the inner os, in others the whole cervix is laid open, and consequently the parts become tumefied and everted, and gape like a horse's mouth. Still another variety of greater severity is the stellate form, where the laceration extends in several directions, radiating from the os outward and involving the larger part of the cervical tissue.

All these forms, namely, the unilateral, the bilateral, and the stellate, have their especial train of painful and distressing symptoms. While it may be true, and undoubtedly is true, that many cases of the simpler forms of laceration heal spontaneously, either partially or almost wholly, although I believe never wholly so, and require no surgical interference, such cases pass through life without any marked symptom, except perhaps a slight pain caused by the presence of cicatrical tissue. Such patients undergo subsequent confinements with comparative safety and ease. This may be due partly to the natural reparatory process of the tissue, and partly through individual insensibility to such a condition of things. It is a well-known fact that uterine tissue varies in sensibility in different individuals—some suffering a train of distressing symptoms, while others, with an equal extent of lesion, suffer little or no pain. In the bilateral and stellate forms of laceration this immunity from suffering rarely or never exists. Sooner or later the patient is made sensible that she is the victim of some ailment—perhaps not always conscious of what the ailment may be, but still knowing that she is not well—and that her health suffers from some cause which she does not always understand. A careful examination usually reveals the fact, and the laceration is answerable for her physical condition of suffering. The symptoms that follow an accident of this kind are well known to every one, and may be briefly summarized as follows: 1. Pain in the back and loins. 2. The sense of bearing down, more or less severe. 3. Leucorrhœa, more or less profuse. 4. Neuralgic pains of the cervix uteri. 5. Frequent sterility, pregnancy under such circumstances being often impossible. 6. Discomfort in locomotion and in sitting down. This is sometimes quite severe.

It is not infrequently the case that all six of these symptoms are present in a single case. The most common symptoms that have presented themselves to my notice are the first three above mentioned, namely, pains in the back and loins, the sense of bearing down, and leucorrhœa. This last symptom is the most frequent of all and is rarely absent.

I doubt if a woman can have a stellate or bilateral laceration, or even a unilateral laceration, of any marked degree or severity without suffering from leucorrhœa. Intercourse in such cases is frequently painful, and contact with this sensitive part must necessarily be distressing. Vaginismus is also a symptom, and when this distressing condition occurs, coitus becomes doubly painful. Sometimes sterility is the only symptom that attracts the attention of either patient or surgeon. Cases are by no means uncommon where a woman has given birth to a first child, and years have gone by without a recurrence of pregnancy. The surgeon is appealed to for a reason for this condition of things. He learns that the patient suffers little or no pain, and they have so little leucorrhœa as to lead them to think they have no uterine trouble. This form of sterility is very important to the mind of the surgeon, and an examination reveals a lacerated cervix, with all the conditions accompanying it which make other pregnancies impossible.

Cases also occur, and are by no means rare, where women abort at the third, fourth, or fifth month, without being able to assign any reason therefor. In such cases pregnancy duly follows successful intercourse, and the woman is happy in the belief that she is again to become a mother, when, without reason, so far as she knows, her labor is lost, and she suffers a miscarriage.

In the severer forms of laceration, those of the bilateral and stellate variety, all these symptoms are present, and in such cases the woman is not long in doubt of the fact that she is suffering from some kind of uterine trouble. In these modern days she can arrive generally at a clear understanding of her condition through the information imparted to her by her suffering sisters or gossiping neighbors. Few among them have not suffered themselves, or have some friend who has so suffered, so that when they apply to the surgeon for relief they have an idea, more or less definite, that the trouble is of a uterine character. When this accident occurs it is difficult, if not impossible, to detect it at the time of its occurrence. The hemorrhage that follows is usually regarded as a natural hemorrhage accompanying normal labor, and if it continues for a time after the lochia have ceased, it is still looked upon as natural uterine hemorrhage. A digital examination fails to reveal the true condition of things, for the reason that the soft and patulous state of the parts make it impossible to arrive at a diagnosis. Hence it is months or years afterward, when the patient's attention is directed to her distressing symptoms, that the physician learns the true condition of things. A laceration of the cervix uteri, if of a simple unilateral character, seldom requires surgical interference, and such cases as these usually do well when left to themselves, or at most re-

quire but slight local treatment to allay the inflammatory condition of the parts. Many such cases come under the practitioner's notice, and local applications of an astringent character, continued for a time, accompanied by a warm vaginal douche, either of plain water, or water to which some astringent is added, usually accomplishes all that is necessary.

In severer cases of unilateral lacerations, and in all, or nearly all, of bilateral lacerations, and I believe in every case of stellate lacerations, surgical interference is necessary, and in most of such cases it is imperative. The method of operating upon such cases as these becomes extremely important, and it is here that the point of this paper is made, namely, to restore the contour of the cervix uteri to its normal condition, and to restore also its future usefulness. Upon this point rests the entire importance of the procedure. How best this operation should be done is a matter that perhaps can be explained by a simple method, that has in the past yielded the best results, although its detail is varied somewhat by different surgeons. Yet in the vast majority of cases the method of operating is practically the same by all.

The patient presenting herself for operation should be prepared in the following manner: Her bowels having been emptied by a mild laxative the previous day, and her stomach kept empty of food, should be profoundly etherized. When under the full influence of the anæsthetic she should be placed in Sims's position, namely, upon the left side with her hips drawn down to the edge of the table. The operator, seated conveniently near her, should now introduce a speculum for the purpose of bringing the cervix into full view. To do this well, I know of no instrument better adapted for the purpose than the one I had the honor to devise, and which I take pleasure in presenting here. The expanded wings upon the blade of this instrument hold the upper labium out of the operator's way, and depress the lower labium, which are so apt to fall together, and thus impede the view of the operating surgeon. Having brought the cervix into view, either by the use of my own speculum or by any other, the operator seizes the part with a long uterine tenaculum. If the laceration be of the stellate or bilateral variety, the torn, swollen, and uneven condition of the parts totally obliterates the former os, and he must construct for himself a new os, somewhere among the irregular and shapeless parts that present themselves. It is my custom to introduce up to the fundus a long uterine sound, and having found the most direct route to the fundus, to construct the new os at that point, it being the most eligible one in the case. With a curved scissors, or a uterine knife, or both, the torn, shapeless, swollen, and everted parts are now cut away radically, until sound uterine tissue is reached. The cut edges are from time to time approximated by the aid of a pair of tenacula, and in this way the operator can see when he has removed sufficient tissue. When he has done so, he may close the wound by the interrupted silver-wire suture. Hemorrhage is controlled by the use of sponges on proper handles, frequently cleansed with hot water, to which is added a weak solution of carbolic acid or hydrarg. bichloride.

The method of using the suture in my hands is as follows: The silver wire, preferably No. 28, is threaded directly into the eye of a suitable uterine needle. The first suture is placed nearest the site of the new os. It is inserted deeply into the tissue on one side, and brought out at a corresponding point at the other. About four or five to the inch are usually necessary, although more may in some cases be needed. The wires are now twisted with moderate firmness, which approximate the cut edges of the parts perfectly. The twisted ends of the wire may be cut off, leaving them about one-half an inch in length. The cervix and the whole vagina may now be freely washed with water that has been boiled and cooled down to blood heat, with or without bichloride or carbolic. The speculum may now be removed and the patient put to bed. I do not allow the patient to be disturbed by an alvine dejection for the first five or six days. Micturition is usually accomplished without difficulty, and at the will of the patient. The diet is nourishing but light, and the patient kept perfectly quiet for the first week. Opiates may be used when necessary, but pain after such an operation is rarely present. At the end of the first week the patient may be allowed to sit up, and on the tenth or twelfth day after the operation the wires may be removed.

When the operation is done carefully in this way, and attention to details scrupulously observed, both in the care and cleanliness of the operation, and the subsequent care of the patient, healing by primary union is the almost invariable result. In a record of 200 cases of this operation, but 2 healed by granulation, the others healed by primary union. Of these 200 cases of lacerations of the cervix uteri, I have been able to follow 21 cases where subsequent confinements have taken place, and of these 21 cases, 8 have had more than one subsequent confinement. These 21 cases have been attended personally by myself, and I have had an opportunity of watching them for a considerable period of time. The result of these cases are given in a brief *résumé*, as follows:

Case I.—Mrs. A. S——, aged thirty-five, mother of one child, born three years previous to the operation. No pregnancies since. She suffered a severe bilateral laceration of the cervix, with all the accompanying symptoms of pain in the back, bearing down, and profuse leucorrhœa. She was operated upon May 2, 1884, in the usual way, the wound healing by first intention, which took place on the twelfth day. One year after she gave birth to a child at full term, without relaceration.

Case II.—Mrs. M. R——, aged thirty-five, mother of three children; the last was born eighteen months previous to the operation. She suffered from a severe bilateral laceration, with all the distressing symptoms which accompany this accident. She was operated upon May 9, 1884, and on the twelfth day her cervix had healed perfectly by primary union. She became pregnant immediately after, and gave birth to a healthy child at full term. No relaceration occurred, and she made a complete recovery.

Case III.—Mrs. N. S——, aged twenty-seven, mother of two children, the last born five years previous to the operation. Her laceration was very severe, and of the bilateral character. She also had a laceration of the perinæum, and had also four large external hemorrhoids. On May 20, 1884, the usual operation was done upon the cervix, and at the same time an operation was done upon the lacerated perinæum—the hemorrhoids were also removed by ligation and were cut completely away with the scissors. She recovered completely from all three operations, the wounds healing by primary union, except the hemorrhoidal wounds, which slowly granulated. One year later she gave birth to a child at full term, without relaceration of either the cervix or perinæum.

Case IV.—Mrs. M. G——, aged thirty-one, mother of one child, born two years and a half before operation. She suffered a severe bilateral laceration, the wound extending to the vaginal junction. She suffered severely from this difficulty, having lumbar pains almost continually, with profuse leucorrhœa, and her condition at the time of the operation was decidedly anæmic. On July 7, 1884, she was operated upon in the usual way, and on the tenth day the wound had healed perfectly. Fifteen months after she gave birth to a child at full term, without any relaceration of the cervix.

Case V.—Mrs. M. G——, aged thirty-five, mother of four children, the last born three years before the operation. She had a severe stellate laceration of the cervix, and had suffered almost continuous pain since her last confinement. She was quite anæmic, and her general health had suffered severely in consequence of her uterien lesion. On July 11, 1884, she was operated upon in the usual way, and on the twelfth day the wires were removed, the wound having healed perfectly by primary

union. One year after she gave birth to a child at full term, without relaceration, and in two years gave birth to a second child at full term, without relaceration. The last time I saw her she was perfectly well, and the cervix showed no signs of any trouble whatever.

Case VI.—Mrs. L. D——, aged twenty-five, mother of four children, the last born one year previous to the operation. She had contracted syphilis from her husband, and had at the time a decided syphilitic taint of a tertiary character. She suffered severely from syphilitic nodes upon the tibiæ, and had several rupial lesions upon her shoulders, and also post-cervical adenitis, and periostitis of the frontal bone, with severe headaches. She had a stellate laceration of the cervix, and suffered severely from lumbar pains, a sense of bearing down, with profuse leucorrhœa. I placed her upon specific treatment, and the operation was done on July 27, 1884. In spite of her bad condition the cervical wound healed kindly, and on the twelfth day she was well. She became pregnant immediately after, and in eleven months gave birth to a child, who showed no signs of syphilitic taint. The reason of this was, I believe, because she took specific medicine during her entire period of gestation. Two years after this child was born, she gave birth to a second, and the last time I saw her she was perfectly well, and had no signs of a relaceration of the cervix. Her syphilitic manifestations disappeared entirely.

Case VII.—Mrs. J. H——, aged twenty eight, mother of one child, born three years prior to the operation. Her laceration was of the bilateral character, very severe, and was accompanied by lumbar pains, bearing down, and leucorrhœa. Her condition was very anæmic and she presented a miserable appearance. On August 13, 1884, the usual operation was done, and the cervix healed on the thirteenth day without difficulty. Proper nourishment and care improved her condition materially, and fifteen months after she gave birth to a child at full term, without relaceration.

Case VIII.—Mrs. E. S——, aged thirty-eight, mother of six children, the last born two years prior to the operation. She suffered a severe stellate laceration of the cervix, the date of which could not be actually learned. The entire cervix was thickened and granular, and bathed with a copious and foul leucorrhœa. After a course of preparatory treatment, lasting about two weeks, and consisting of copious astringent vaginal douches and applications of tincture of iodine every second day, she was rendered fit for an operation, which was done on November 14, 1884. On the twelfth day the wound had healed by primary union, and she was discharged. Thirteen months later she gave birth to a child at full term, and two years after this confinement she gave birth to a second child, without any relaceration of the cervix whatever.

Case IX.—Mrs. M. C. M——, aged twenty nine, mother of three children, the last born eighteen months previous to the operation. She suffered a severe bilateral laceration of the cervix, and when I saw her she was suffering from lumbar pains, severe bearing down, and a profuse leucorrhœa. The torn edges of the cervix were thickened, granular, and everted, and intensely painful. A course of preparatory treatment similar to that of Case VIII. was continued for two weeks, and on November 27, 1884, the operation was performed. The wound healed by first intention and her symptoms at once ceased. Fifteen months later she gave birth to a child at full term, and in fifteen months again gave birth to a second child at full term, and the last time I saw her she had no relaceration whatever.

Case X.—Mrs. S. H——, aged twenty-nine, mother of three children, the last born one year previous to the operation. Her laceration was of the bilateral variety and very severe, with all the distressing symptoms accompanying it. On December 7, 1884, an operation was done in the usual way, from which she recovered duly. Two years after she gave birth to a child at full term, and without relaceration of the cervical tissues.

Case XI.—Mrs. M. S——, aged twenty four, mother of two children, the last born fifteen months prior to the operation. She suffered a severe stellate laceration of the cervix, and a laceration of the perinæum, which extended completely through the sphincter ani. She had a slight rectocele which was aggravated by habitual constipation. On January 21, 1885, an operation was done upon the cervix, and upon the perinæum. Although both operations were quite extensive, she recovered completely, the wounds healing kindly by primary union. Twenty months after she gave birth to a child at full term, without relaceration of either the cervix or perinæum, and a year after she gave birth to a second child of large size, and owing to the fact that she persisted in walking around the room during the first and part of the second stages of labor she suffered a relaceration of both cervix and perinæum. After her confinement both relacerations were found to be of so slight a character that a second operation was not deemed necessary, and the last time I saw her she was enjoying good health, and with no inconvenience from her second laceration.

Case XII.—Mrs. J. W——, aged thirty-three, mother of three children, the last born three years prior to the operation. At the birth of this last child she suffered a severe bilateral laceration of the cervix and a laceration of the perinæum. She had three pregnancies which ended in abortions at about the fifth month in each case. When I saw her she was anæmic, suffered from lumbar pains, profuse leucorrhœa, and ovarian neuralgia. An operation was done upon the cervix and perinæum January 30, 1885. Both wounds healed kindly in the usual time by primary union, and she was placed upon a generous diet, which produced a marked change for the better in her general condition. Thirteen months later she gave birth to a child at full term, without a relaceration of her cervical tissues.

Case XIII.—Mrs. C. H——, aged thirty-three, mother of three children, the last born eight months prior to the operation. She suffered a severe bilateral laceration of the cervix and a laceration of the perinæum. She suffered the usual symptoms of lumbar pains, of bearing down, and leucorrhœa. On May 11, 1885, an operation was done in the usual way upon both cervix and perinæum. The wounds healed kindly by first intention. One year later she gave birth to a child at full term, without relaceration.

Case XIV.—Mrs. M. L. G——, aged thirty-five, mother of three children, the last born two years prior to the operation. She suffered from a severe stellate laceration of the cervix, and also a laceration of the perinæum. Three pregnancies were followed by abortions at about the fourth month, as a result of her lacerated cervix. The parts were swollen, granular, and everted, and intensely painful, and beside this she had a cystocele and a rectocele. On May 13, 1885, an operation was done upon her cervix in the usual way, and also upon the perinæum, which cured her cystocele and rectocele both. The cervical and perinæal wounds healed kindly by primary union, and on the twelfth day she was well. Eleven months later she gave birth to a child at full term, and nineteen months afterward gave birth to a second child at full term, without relaceration of her cervical or perinæal tissues.

Case XV.—Mrs. S. L——, aged twenty-nine, mother of four children, the last born fifteen months prior to the operation. She had a severe stellate laceration of the cervix, with all the accompanying distressing symptoms. On September 6, 1885, an operation was done upon her cervix, which healed by primary union on the tenth day. Fourteen months after she gave birth to a child at full term, without relaceration of her cervix.

Case XVI.—Mrs. J. K——, aged twenty-four, mother of one child, born one year prior to the operation. Suffered a bilateral laceration of the cervix of a severe nature. On November 23, 1885, an operation was done in the usual manner, and healing by primary union duly fol-

lowed. Thirteen months later she gave birth to a child at full term, without relaceration.

Case XVII.—Mrs. E. B. B——, aged twenty-eight, mother of one child, born two years prior to the operation. Suffered a severe bilateral laceration of the cervix and a laceration of the perinæum. Her condition was decidedly anæmic, and she suffered the usual train of distressing symptoms. On December 27, 1885, an operation was done upon both cervix and perinæum with a good result. Eleven months after she gave birth to a child at full term, and sixteen months after gave birth to a second child. She suffered a slight relaceration of the cervix, but not of the perinæum. No operation was necessary, and the last time I saw her she was quite well.

Case XVIII.—Mrs. A. W——, aged thirty-two, mother of a child born eleven years prior to the operation, had a second child eight years prior to the operation, and five months prior to the operation gave birth to twins at full term. Suffered a severe stellate laceration of the cervix, which was torn into almost a shapeless mass. Her symptoms were very severe. On February 7, 1886, an operation was done and the parts were restored to an excellent condition. One year later she gave birth to a child at full term, without relaceration, and a year later she died of phthisis.

Case XIX.—Mrs. C. M——, aged thirty-two, mother of one child, born two years prior to the operation, and six months prior aborted at the fifth month. She suffered from a severe bilateral laceration of the cervix. An operation was done on May 14, 1886, with a good result. Two years later she gave birth to a child at full term, without relaceration.

Case XX.—Mrs. E. M——, aged twenty six, mother of one child, born one year prior to the operation. She suffered a stellate laceration of the cervix and a laceration of the perinæum, which extended through the sphincter ani. She had also a slight vesicocele and a rectocele. Her symptoms were specially distressing. She was operated upon July 3, 1886, and both cervix and perinæum closed to their natural condition. She recovered duly, and fifteen months later gave birth to a child at full term. Eighteen months after she gave birth to a second child at full term, without relaceration of either cervix or perinæum. Both the rectocele and vesicocele were radically cured by the operation.

Case XXI.—Mrs. M. R. S——, aged thirty, mother of two children, last born six years prior to the operation. Within a year following this last birth she aborted twice between the fourth and fifth month in each case. For five years prior to this operation she had not been pregnant. She suffered a severe stellate laceration of the cervix, with the usual train of painful symptoms. On November 10, 1887, an operation was done with a good result. In January, 1891, she gave birth to a child at full term, without relaceration of her cervix.

By a reference to the foregoing 21 cases it will be seen that they were all of a severe form of laceration. In 7 cases there was a laceration of the perinæum; in the other 14 cases the cervix alone was torn. In one of these cases, where both cervix and perinæum were lacerated, the case was still further complicated by hemorrhoids.

In reference to the character of the lacerations, it will be seen that 12 were bilateral lacerations and 9 were of the stellate variety. In all of the cases where both cervix and perinæum were torn, a double operation was done, and in the case complicated with hemorrhoids, three operations were done at the same sitting. These cases were not selected, but were taken as they occurred and the result reported.

In 13 of these cases the patient had one child subsequent to the operation, and in eight cases the patient had two children subsequent to the operation. Relaceration of the cervix occurred but in one case, and, as above stated, this was so slight as not to make a second operation necessary. If the above cases can be taken as a criterion by which to judge of the practical results of this operation upon the cervix, then it has succeeded in doing what is chiefly desired, namely, to restore the future usefulness of the organ. Without this practical result the operation would be futile and of no value. If we may judge by 21 cases, and this is all I have had a personal opportunity to observe where I was familiar with all the details, then we may say that the operation is a proper and successful one, and accomplishes the following practical results: 1. To diminish pain and irritation following upon such a distressing lesion. 2. To relieve the sense of bearing-down. 3. To cure the exhausting discharge caused by the leucorrhœa and to restore the parts to their natural and healthful condition, and paramount to all other considerations, to restore its natural functions that future pregnancies may take place in a natural and healthy manner, and without subjecting the patient again to the same train of distressing and painful symptoms that led her to seek relief by a primary operation.

747 Madison Avenue.

Clinical Department.

AN ACUTE CASE OF PROGRESSIVE MUSCULAR ATROPHY.

By ARTHUR C. BRUSH, M.D.,

BROOKLYN, N. Y.

The following interesting case, which I have ventured to call an acute form of progressive muscular atrophy, is, I think, an anomalous one. The patient presented himself at the Brooklyn City Dispensary on March 26th, with the following history: He was twenty-eight years of age, married, born in Ireland, and a blacksmith by occupation. He had always been a healthy man, and never touched liquor or had any venereal disease. His family history was good. On March 17th, only nine days before, he became intoxicated and slept exposed to the severe cold of that night. Since then he has not been able to work, having rapidly lost strength, and he has noticed that his muscles have become much smaller. He has a few sharp lightning pains in his limbs, but at no time have there been any other disturbances of sensation.

Examination shows all the muscles of the trunk and limbs to be atrophied, the condition being most marked in the extensors of the arm and leg; and the patient thinks it commenced in them. The skin hangs in folds, and fine fibrillary contractions can be felt in the affected muscles. He walks by shoving the feet, which are sometimes turned in, sometimes turned out. There is no muscular paralysis; the reflexes are feeble, and sensation is normal. Both electrical currents produce muscular contractions. The intelligence seems good, except that he cannot pronounce or spell the name of the street where he lives; and his articulation is very imperfect. The pupils are normal, and there are no disturbances of sight or hearing. There are no bladder, rectal, or sexual troubles.

By April 6th his muscular atrophy had become much more marked, and his breathing diaphragmatic from involvement of the intercostals; the pulse was rapid and irregular. The night before he fell, striking the back of his head, which, however, showed no lesion; but in the morning he awoke with complete paralysis of the lips, tongue, larynx, and pharynx. The reflex and electrical contractions were then very feeble. He remained in this condition until April 19th, when he developed a pneumonia of which he died. Unfortunately no autopsy could be obtained.

The diagnosis of this case is of course very obscure. It was not simple congestion of the cord, nor myelitis, nor myelitis of the anterior horns; for there were no disturbance of sensation, no bladder or rectal troubles, and the loss of muscular power was due to atrophy and not to paralysis.

There are but two diseases of the cord characterized

by fibrillary contractions and progressive muscular atrophy, and these are both chronic; and in lateral sclerosis there are also disturbances of sensation, and the atrophy is followed by permanent contractions.

The history resembles that of progressive muscular atrophy running an acute instead of a chronic course. The points of interest are the absence of family history, which is usually marked; the rapid involvement and atrophy of the entire muscular system of the body; the distinct history of a cause; and the sudden development of bulbar paralysis; but this latter also occurred in two reported cases of progressive muscular atrophy.

INTERSTITIAL PLACENTITIS.

By JOHN J. MORRISSEY, M.D.,
HARTFORD, CONN.

On Friday, January 2, 1890, I was summoned, about 7.30 P.M., to see Mrs. B——. On arriving at the house I found a large, fleshy woman weighing probably in the neighborhood of one hundred and eighty pounds, reclining on the bed with pallid (I use the word advisedly) features, and who on my entrauce begged me to do something for her. There was another woman in the room who, on my inquiring, told me that Mrs. B—— had been in labor since 3 A.M., a period of some sixteen hours. The pains had been of an intermitting character, accompanied with little expulsive force, and not sufficiently acute to compel her to remain in bed, until about an hour before my arrival, when they suddenly became more intense for half an hour, and then entirely ceased. The patient herself supplemented this information by saying that she was the mother of eleven children, and had never found it necessary to require the services of a physician, as she had in all her previous confinements never been over two or three hours sick, and had always got along with such assistance as the midwife rendered. I know that her health had been generally excellent, as I had in the past five years frequently prescribed for her husband and children, but never for herself. I found her pulse to be 120, feeble, and now and then intermitting. On examination per vaginam, I felt the vertex presenting L.O.A., and as there appeared to be absolutely no contracting power exercised by the uterus, I applied the short forceps, and with very little exertion, scarcely any in fact, I extracted a macerated fœtus of, I should judge, about eight and one-half months. It was perfect in shape, except that the head was considerably elongated, the cranial bones overlapped each other, and the feet had every appearance of talipes varus.

On placing my hand over the fundus of the uterus, notwithstanding the fact that the fœtus had been expelled, I found the uterus still remained uncontracted. I made some traction on the cord, and finding, despite my efforts, that the placenta still remained firmly adherent, desisted, administered a drachm of ergot, and waited. The pulse in the meantime had not fallen, but persisted in the same rapidity as before delivery, the woman was perfectly conscious, and gave vent to an ejaculation of gratitude when the fœtus was expelled. After waiting some fifteen to twenty minutes, and still finding the placenta firmly fixed, I determined to follow up the cord and deliver if necessary by manual force. Under the circumstances, with no assistance only such as could be given by an unintelligent midwife, with a woman who had undergone the pangs of an exhausting labor, and was then completely worn out, with a rapid and feeble pulse, and features that indicated something yet to be discovered back of all these signs, I did not think it safe to use chloroform. After antiseptic precautions I followed, without much difficulty, the cord up to its juncture with the placenta and strove to peel the latter off. I found it to be so firmly adherent that it seemed to me to be intimately connected with the muscular tissue of the uterus itself. I finally got down a portion of it and snipped it off. It was a piece of the placenta about as large as the palm of the hand, through the centre of which the cord was running, while from each side there were some six or seven fatty prolongations about the size of the little finger. I now sent for Dr. Ingalls, who quickly responded. In the meantime I had given whiskey with more ergot, but the patient appeared unresponsive to the effects of the stimulant.

Dr. Ingalls introduced his hand, but after considerable exertion failed to bring away any more of the placenta, and owing to the extreme prostration of the woman we finally desisted from further attempts.

I saw her again the following morning, but instead of being in bed she was partly reclining on some chairs, as in this position she stated "it was easier for her to breathe," yet there did not seem to be any great amount of difficulty to her respiration. Her pulse had fallen to 115, and she appeared to be quite comfortable. There had been no hemorrhage whatever, not even the ordinary amount consequent upon labor. On the evening of the day upon which I made my second visit she gradually grew weaker, but her relatives did not consider her condition to be at all alarming until about six the following morning, when she rapidly went into collapse and died an hour afterward. To my great regret there was no autopsy.

It seems to me to be difficult to determine exactly the cause of death, from the meagre information derived from the deceased's former history. Was it an embolus depending upon some antecedent disease, as Bright's or syphilis? As to the latter, there was no enlargement of the glands or other evidence of syphilitic infection, and there were some six or seven children living, the youngest being three years of age, with no sign of specific taint. It was D'Outrepont, who, about 1830, drew attention to the fact of the influences of diseases of the placenta upon the nourishment and life of the fœtus, and Ercolani, who described, under the name of "cellular hyperplasia and hypertrophy of the parenchyma of the placenta villi," a disease that is characterized by the extensive multiplication of the cellular elements in the villi to such an extent as to obliterate the blood-vessels, and give the placenta a hard, dense appearance and feel. This has been called by other writers sclerosis of the placenta, and has been attributed to over-production of fibrous tissue. Barnes has described a simple fatty change without other pathological processes, but now it is generally believed to be subsequent to other degenerative changes, most frequently an abnormal development of fibrous tissue—interstitial placentitis. As there are no capillaries in the maternal portion, many observers have denied that an inflammation of the placenta can take place, but certainly pathological changes are found in the placenta analogous to those seen in cirrhosis of the liver. The diagnosis of interstitial placentitis was confirmed in the present case by a microscopical examination at the hands of Dr. Wolfe, of this city.

FOREIGN BODY IN THE LARYNX.

Dr. Lachlan Tyler, of Elkhorn, W. Va., reports a case of death from impaction of a piece of meat in the larynx, upon which he performed an autopsy while serving as coroner's physician in Washington, D. C. The subject was a Frenchman, about sixty-five years of age, an inmate of the workhouse in Washington. One day, after eating a hearty dinner, he arose from the table and had taken a step or two toward the door of the dining-room, when he was seen to fall to the floor and almost immediately died. At the autopsy the brain, heart, lungs, and all the abdominal viscera were examined without any condition being found to account for the sudden death that had taken place. Finally, on opening the larynx, a piece of gristly corned beef, one inch long and half an inch in thickness, was found firmly impacted in the glottis. It was so tightly wedged in that it required considerable manipulation and some force to dislodge it.

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & Co., Nos. 56 and 58 Lafayette Place.

New York, June 20, 1891.

NORMAL ALBUMINURIA.

FEW, if any, insurance companies will accept a risk, if albumin has been demonstrated to exist in the applicant's urine, and while the examining surgeon may personally be convinced of the trifling nature of the cause which has produced the trace discovered, the company considers it inexpedient to discriminate, and hence places all such cases in the same class as undesirable.

Undoubtedly albumin can be found in many instances where nephritis does not exist and where it does not subsequently develop, and much injury and injustice is done to those who are unfortunate in one sense and fortunate in another, as the victims of temporary, cyclic, regularly or irregularly intermittent, or any other form of benign albuminuria. These individuals are the victims of a science which goes far enough to discern the signal, but is not in every instance able to make out whether it is really a signal of danger. So important is this question of the forms of albuminuria which are not of necessity dangerous to life, that everything bearing upon it should receive careful consideration.

Senator ascertained to his own satisfaction that there was a "physiological albuminuria" some nine years ago, and believed that the source of the albumin is the epithelia of the urinary passages, and of the tubules of the kidney which undergo periodical desquamation.

The difficulty of demonstrating the slight amount of albumin present in health lies in the fact of its high state of dilution. Posner has proposed a method of detecting the presence of small quantities of albumin, which is a modification of the process advanced by him in 1886, and which consisted in the free addition of acetic acid to the urine, which converted the albumin into a non-coagulable acid-albumin. After evaporation and filtration the albumin is made apparent by the ferro-cyanide of potassium.

This he has modified as follows: Precipitate with alcohol, wash the precipitate with hot alcohol, then with cold ether, and throw upon the filter boiling concentrated hydrochloric acid. If albumin is present on the filter a beautiful violet color is obtained.

Pavy has given an excellent description of the transitory albuminuria tending to recur in a cyclical manner, and many have since added their observations on this interesting phenomenon.

It is now quite generally accepted that the condition may arise from dietetic causes as well as from muscular exercise, and some observers, among them Falkenheim, have found it in certain individuals always following rest in bed. In one case lying upon the left side produced a marked increase in the albu nin, due it was thought, to compression of the renal veins by a large spleen.

Dr. Lewis, of Hartford, has found that although from six to ten per cent. of persons who apply for life insurance have more or less albumin in their urine, still the mortality rate "both of selected lives and the general public" rarely exceeds three per cent., from which he infers that only about thirty to forty per cent. of albuminuria cases terminate fatally. While it is well to bear in mind the possibility of albuminuria without nephritis, we must not fall into a habit of regarding the presence of albumin as trivial and thus overlook the really serious cases.

OUR NATIONAL HOLIDAY AND ITS MINOR SURGERY.

SOME five years ago we published an article of length on the subject of the "Toy Pistol Wounds" which the youth of our country annually take pleasure in self-inflicting, and each succeeding year we have felt it wise to refresh the minds of our readers with a brief note on the importance of the subject. These wounds are small, but they possess dangers far out of proportion to their size. They generally involve the hand, and are punctured wounds inflicted by the entrance of bits of metal caps, wadding, and powder. The reports in the lay press, during the month of July, attest the frequency of lockjaw and other septic complications.

The little wounds should receive early and careful attention. Under cocaine a free incision may be made to the bottom of the wound, and all foreign bodies carefully removed. Thorough disinfection with a sublimate solution of suitable strength and loose packing with antiseptic gauze follow, the dressing to be changed frequently.

DO LOBSTERS CONTAIN ARSENIC?

TO-DAY, when Boston is mentioned in New York society, it is no longer the bean question which rises with irresistible force to the imagination. At least, if beans are thought of at all, it is only in a secondary and supplementary way. What has effected this vast change is the unprecedented susceptibility of the Boston constitution to minute doses of arsenic, an idiosyncrasy which has already made the name of Boston heard, and, indeed, familiar, in distant lands where the bean never had the power to penetrate.

No other event since the days when they turned their Back Bay into a teapot, and the men left their wives at home while they went to the stag tea-party and did their own "pouring," has anything so completely taken possession of all classes of society as has arsenic. To add to the excitement, a whole jury—twelve men, good and true—were recently poisoned by eating canned lobster. While no doubt exists that the poisoning was due to arsenic, the questions which have to be determined are: 1. Has the Bostonese system been so deteriorated by years of exclusive and excessive bean diet as to be in-

PUBLISHERS' SUPPLEMENT TO

Medical Record

A Weekly Journal of Medicine and Surgery

NEW YORK, JUNE 20, 1891

Summer Health Resorts.

No people are so well off in the matter of health resorts of every variety, for both summer and winter, as those of the United States. We propose at this time to give a very general and comprehensive account of the resorts and mineral springs suitable for summer sojourn, omitting such as are in the far South and west of the Mississippi. Many of these are already well known to our readers, and the list which will be found in this number of the MEDICAL RECORD will serve chiefly as a reminder to physicians who may be thinking of recommending to their patients locations suited to their special summer needs.

In a general way, the summer health resorts may be divided into two classes: dry upland or mountainous regions, and lake or coast—the latter characterized chiefly by cool breezes, more or less moisture-laden. Unless one knows something of the peculiarities of the individual who is seeking health, rest, and recreation, it is impossible to advise a sojourn in either of these two classes, since, contrary to the prevailing idea, those affected with pulmonary and bronchial troubles are oftentimes benefited by a more or less extended residence upon the sea shore, with its cool breezes and more or less foggy atmosphere.

As a general rule, the low-lying and marshy area between tidewater and the uplands, all the way from Florida to New Jersey, is insalubrious, and more or less malarious during the summer months. There are, however, exceptional points to which this statement will not apply.

On the New Jersey coast there are a number of pleasant resorts, and as one goes farther to the north and east, this number increases very largely. The prevalence of fogs upon the sea-coast is largely influenced by the character of the shore, the indentations along it, and the country immediately behind it. Northward from New Jersey the shore line rapidly changes from low-lying, sandy beaches, with marshlands overflowed by the recurring tides, to the rocky shores of Connecticut and Massachusetts, and the bold bluffs and headlands of the coast of Maine, indented with bays of considerable magnitude, which are dotted with numerous islands, forming delightful places of retreat from the heat of summer. This entire shore is more or less subject to sea-fogs, and the air is heavily laden with moisture at all seasons of the year. Islands which are some distance from the mainland, strange as it may seem to some, are shown by observations of the weather, often to be drier than the mainland adjacent.

Fifty miles, or more, from the coast, in the vicinity of North Carolina, the foot-hills of the Appalachian chain begin, and there is a broad plateau, from six hundred to one thousand feet above the sea-level, covered with pitch pine, a region of exceptional healthfulness, particularly for those inclined to consumptive troubles. Such plateaux are found in New Jersey also, as, for example, at Schooley's Mountain, which is twelve hundred feet above the level of the sea. In New York, Vermont, and New Hampshire the altitude increases, and various groups of mountains, with heavily wooded plateaux, of from fifteen hundred to two thousand feet above the sea, occur, which are specially notable for the evenness of their temperature, and are famous as resorts of consumptives in winter as well as summer. New Hampshire is characterized by a somewhat cooler temperature than other States during the summer, as is also the State of Vermont, in consequence of the more general elevation of the land above the sea-level. The southern part of Rhode Island, on account of its insular position, is also a cool summer place of residence, which, with the facilities for sea-bathing, have done so much to give Newport and Narragansett Pier their reputation.

Maine.—Perhaps the best-known location in the State of Maine for summer residents is the Island of Mount Desert, in Frenchman's Bay, one hundred and ten miles east of Portland, and forty miles southeast of Bangor. The whole island is a mass of mountains, rising abruptly from the water, the highest two thousand feet above the sea-level. The hotels are numerous and good; the drives about the island are picturesque and beautiful. The principal village of Mount Desert is Bar Harbor. Somesville and Southwest Harbor are smaller hamlets on the opposite side of the island, quiet, delightful places. The temperature of Mount Desert is cool and bracing, although there are frequent fogs and considerable precipitation of water. Fires are often comfortable in midsummer. There are numerous places of popular resort between Bar Harbor and Portsmouth, N. H., upon the main coast, as Old Orchard Beach, Rye Beach, etc. The interior of the State is considerably elevated above tidewater, with broken, detached mountain peaks, and mostly densely wooded; Mount Katahdin, Moosehead Lake, Lake Moosemaguntick, are cool, picturesque, wild localities with good hotels.

At South Poland, Me., are the famous Poland Springs. Poland Springs House, is one of the best hotels in the country, very large and furnished with every modern appliance for comfort and recreation.

Off the coast of New Hampshire are the delightful Isles of Shoals, excellent places for quiet comfortable rest, fishing, and sailing. Of the White Mountains lying within this State, the climatic character is generally well known to the profession. At the principal points among the mountains are large and excellently appointed hotels

PRIVATE HOSPITALS, SANITARIUMS AND RETREATS.

The Private Institution for

FEEBLE-MINDED YOUTH

At BARRE, MASS.,

[ESTABLISHED JUNE, 1848,

offers to parents and guardians superior facilities for the education and improvement of this class of persons, and the comforts of an elegant country home. GEO. BROWN, M.D., Supt.,

GEO. A. BROWN, M.D.

VERNON HOUSE.

A Private Hospital for the Treatment of Mental Diseases. Mount Vernon, N. Y.

WILLIAM D. GRANGER, M.D., Superintendent,
Post-Office address, Bronxville, N. Y.
Telegraph, Mount Vernon.

Vernon House is between Mount Vernon and Bronxville, and is fifteen miles from Grand Central Station, New York City. It is reached by Mount Vernon on New Haven R. R., or by Bronxville on the Harlem R. R.

The Warsaw Salt Baths and Sanitarium,

Warsaw, Wyoming County, New York.

New buildings. Beautifully located on a hillside, overlooking Warsaw Valley for miles. 55 acres in grounds. Pleasant walks and drives. Hot water heating. Hydraulic elevator. Baths of all kinds. Electricity, Massage. Special attention to the administration of **Salt Baths.** Brine (from wells 2000 feet deep), a saturated solution of the Chlorides of Sodium, Calcium, Magnesium, with other salts. There is a large **Salt Swim Bath** in a detached building heated by steam. Special attention to chronic diseases, rheumatism, nervous diseases.

References by permission: Prof. Alexander J. C. Skene, M.D., LL.D., Brooklyn, N. Y.; John B. Hamilton, M.D., LL.D., Surgeon Gen'l, M. H., Washington, D. C.; Prof. E. O. Dudley, M.D., Chicago, Ill.; R. H. Lewis, M.D., Raleigh, N. C.; John G. Meachem, M.D., Racine, Wis.; Walter Lindley, M.D., Los Angeles, Cal.

For circulars, address JOHN C. FISHER, M.D., Warsaw, Wyoming Co., N. Y.

"DR. COMBES SANITARIUM."

A private home for the treatment of Mental and Nervous Diseases, situated at Woodhaven, L. I., only one mile from city; cars every ten minutes. Address R. C. F. COMBES, M.D., or M.D., Medical Supt., Woodhaven, L. I. Telephone 7, I., East New York.

WALNUT LODGE HOSPITAL,

Hartford, Conn.

Organized in 1880 for the special medical treatment of ALCOHOL AND OPIUM INEBRIATES. Elegantly situated in the suburbs of the city, with every appointment and appliance for the treatment of this class of cases, including Turkish, Russian, Roman, Saline, and Medicated Baths. This institution is founded on the well-recognized fact that inebriety is a disease, and curable, and all these cases require rest, change of thought and living, in the best surroundings, etc., etc.

Applications should be addressed

T. D. CROTHERS, M.D.,
Sup't Walnut Lodge, Hartford, Conn.

LONG ISLAND HOME,

A PRIVATE HOME FOR THE CARE AND TREATMENT OF MENTAL AND NERVOUS DISEASES.

Located at Amityville, Long Island, on Great South Bay, one hour from New York and Brooklyn. Applications can be made to the Medical Superintendent at the Home.

DR. J. E. BOWMAN,
Medical Superintendent.

Telephone Babylon, 14 B.

THE WINYAH SANITARIUM, ASHEVILLE, N. C.

(Special Institution for Affections of Lungs and Throat.)

A refined home, accommodating a limited number of patients and their friends. Every hygienic and other appointments for perfect care and comfort. Open all the year. Cool Summer and moderate Winter. Climate dry, pure atmosphere. No hopelessly advanced or offensive patients admitted. For particulars, address

KARL VON RUCK, M.D.

RICHLAWN.

A private home for the special care and medical treatment of ALCOHOL AND OPIUM INEBRIATES AND NERVOUS DISEASES. It is situated in a park of 13 acres, at SEA CLIFF, Queens Co., Long Island (one hour from New York). Address

H. L. RICHARDSON, M.D., Superintendent,
Sea Cliff, L. I., N. Y.

Or, can be seen in person, Mondays and Fridays, between 12 and 2 o'clock, P.M., at his office, 79 Washington Place, N. Y. City.

WALDEMERE ON-THE-SOUND,

Mamaroneck, N. Y.

For the private care and treatment of Mental and Nervous Diseases, Alcoholic and Narcotic Habitués. Waldemere is twenty miles from Grand Central Station, New York City. Trains every hour. Applications can be made at 5 E. 41st St., New York City, 9 to 11 A.M.

DR. E. N. CARPENTER, Superintendent.

OXFORD RETREAT.

A Private Institution for the Treatment of Insanity, Nervous Disorders, Inebriety, and Opium Habit.

Facilities and advantages are unsurpassed for the proper care and treatment of all forms of the above-named disorders. Attention is given to the proper classification of patients. Careful supervision at all hours. Average, one attendant to every four patients. Every needed convenience and any accommodations that may be desired. Retired and home like. Site elevated, beautiful, and salubrious. 39 miles from Cincinnati, 84 miles from Indianapolis; 8 trains daily. Terms moderate. For references, terms, etc., address G. F. COOK, M.D., Supt., Oxford, Butler Co., Ohio.

Send for a Catalogue of WM. WOOD & CO.'S Publications.

THE GLEN SPRINGS SANITARIUM.

MEDICAL FACULTY:

E. D. LEFFINGWELL, M.D., Pres. JAMES E. KING, M.D., Vice Pres. and Medical Sup't.
CHARLES HUNTER, M.D., Sec. E. GOULD WOODRUFF, M.D., House Physician.
MIRIAM GARDNER, M.D., Lady Physician.

Under the medical management of experienced physicians.

Located on a bluff, overlooking thirty miles of Seneca Lake, surrounded by Pine Forests, and near the famous Watkins Glen.

Equipped with all the most approved therapeutic appliances, including Turkish, Russian, Roman, Electric, Electro-thermal, Moliere, Saline, and Iron Baths.

Also Massage, Swedish Movements, Vacuum Treatment, Calisthenics, and all forms of Electricity.

Pure water—also valuable mineral springs, including Saline, Iron, Iodine, and Sulphur waters.

No Malaria. Pure air.

Climate mild, dry, and equable. More days of sunshine and less humidity than any other section of New York State. Beautiful views, charming walks and drives.

Modern improvements: Elevator, Electric Bells, etc. Cuisine unsurpassed.

Persons suffering from Tuberculosis, or from any other Contagious Disease; Epileptics, and persons afflicted with any form of Insanity, are not received For terms and illustrated pamphlet, address

WM. E. LEFFINGWELL, Manager,
Please mention MEDICAL RECORD. *WATKINS, NEW YORK.*

THE BELMONT,

Asheville, N. C., "The Land of the Sky."

The finest health resort in America. Located in a mountain grove of 65 acres, 2,500 feet above sea level. Delightfully cool in mid-summer; comfortably warm to sit out of doors in mid-winter. We have three fine medicinal springs (Iron, White and Black Sulphur) which possess remarkable curative properties. The best medical authorities pronounce the climate of Asheville the finest in the world for diseases of the throat and lungs. While the "Koch Treatment" is in its infancy, yet we are having excellent results in incipient cases. The skilled administration of tuberculin, combined with the climatic advantages of our location, is proving eminently satisfactory to our patrons. Accommodations first class. Terms reasonable. Take our private electric car at the depot for "The Belmont." Address

JOHN S. MARSHALL, M.D., Director.
KARL VON RUCK, M.D., Consultant. Please mention MEDICAL RECORD.

THE INEBRIATES' HOME, FORT HAMILTON, N. Y.

INCORPORATED 1866.

A Hospital for the Treatment of ALCOHOLISM and the OPIUM HABIT.

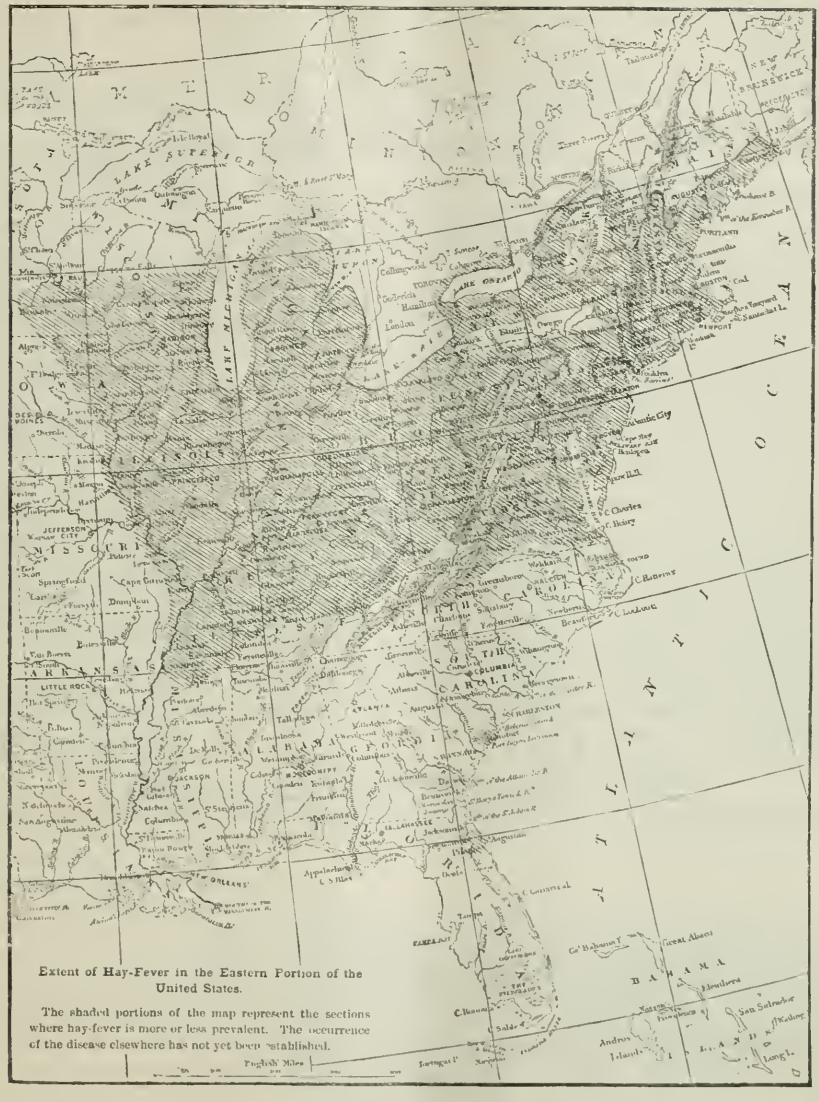
President Hon. G. G. HERMAN. Consulting Physician: L. D. MASON, M.D.
Medical Superintendent: JAMES A. BLANCHARD, M.D.

The building is situated in a park of twenty-six acres, overlooking and commanding fine views of the narrows, and the upper bay of New York Harbor.

The accommodations, table, attendance, and nursing are of the best character and suited to first-class patients.

For manner and terms of admission, apply to the Superintendent, at the Institution, Fort Hamilton (L. I.), N. Y

Please mention MEDICAL RECORD.



Extent of Hay-Fever in the Eastern Portion of the United States.

The shaded portions of the map represent the sections where hay-fever is more or less prevalent. The occurrence of the disease elsewhere has not yet been established.

while scattered about in the valleys are innumerable smaller hostelries, much used by those who desire to avail themselves of the advantages offered by this high plateau, at moderate and very reasonable charges. Here, and among the Green Mountains of Vermont, those who are afflicted with hay asthma find complete immunity, the little village of Bethlehem, N. H., especially being a Mecca for this class of unfortunates, much thronged during August and September. By reference to the map here appended the regions of the entire United States which are said to be places of refuge for those who are liable to hay fever, may readily be seen. They include the White, Green, and Franconia Mountains, the northern part of the State of Maine, the Adirondack region, the southern section of New York, as far west as Lake Erie, and the crests of the Alleghanies. Of the great part of the country west of the Mississippi little is known in relation to its exemption from this disease. Probably all regions of one thousand or more feet above the ocean, unless covered with rank vegetation, are likely to be free from hay fever.

In the State of Vermont we may direct special attention to the entire region of the Green Mountains and the Franconia Mountains. Mount Mansfield, the highest of the range, is four thousand three hundred and forty-eight feet high. In the northwest corner of the State, ten miles east of St. Albans, are the Sheldon Springs, four in number. They are alkaline, and are claimed to be of efficiency in the cure of cancer. The surroundings of the Village of Sheldon are delightful. In sight are many

PRIVATE HOSPITALS, SANITARIUMS AND RETREATS.

KENSETT.

For the care and treatment of Insanity and Nervous Diseases, Alcoholic and Narcotic Habitués. Address EDWIN EVERETT SMITH, M.D., South Wilton, Connecticut. Thursdays, 1.30 to 3.30 P.M., 44 West 36th Street, New York City.

MENTAL AND NERVOUS DISEASES.

DR. RALPH L. PARSONS

Receives cases of Mental and Nervous Diseases, for care and treatment, at his residence at **Greenmont-on-the-Hudson**, near the **Village of Sing Sing.** Inquiries may be addressed to Box 234, Sing Sing P. O., New York; or made in person on Mondays and Fridays, between 3.30 and 4.30 o'clock, P.M., at his office, No. 21 East 44th Street, New York City.

Private Hospital for Mental Diseases,

Brookline, near Boston, Massachusetts.

ESTABLISHED 1879.

WALTER CHANNING, M.D., Superintendent.

POST-OFFICE ADDRESS,

Corner Boylston St. and Chestnut Hill Ave.,

BROOKLINE, MASS.

"OAK RIDGE" SANATORIUM,

GREEN SPRING, OHIO.

A home for the cure of Alcoholic, Opium, and Chloral Habit. Excellent cuisine and appointments. D. P. CAMPBELL, M.D., Medical Supt.

Location in the midst of a beautiful forest, accessible to all of the principal cities. Baths of all kinds. For circulars and all information, address "OAK RIDGE," Green Spring, Ohio.

Private Sanatorium for Women.

A limited number of cases assuring special personal care and attention of the physician, good nursing, quiet, and comfort. Information respecting admission, terms, etc., upon application. GIDEON C. SEGUR, M.D.,

Hartford, Conn.

THE HIGHLANDS.

A private hospital, established in 1875 by Ira Russell, M.D., for the treatment of mild nervous and mental diseases, the opium and alcoholic habits, and nervous debility. The principles of home and family life, non-restraint and open air are carried to an extreme. The surroundings are exceptionally pleasant.

For circulars, terms, references from all parts of the United States, address the Superintendent, DR. FREDERICK W. RUSSELL, Winchendon, Mass.

Dr. Andrew J. Willard's Nervine Establishment,

NORTH PROSPECT ST., BURLINGTON, VT.

Exclusively for the treatment of NERVOUS DISEASE, is under the immediate personal supervision of Dr. Willard, who is a graduate of Yale, and who for nearly six years was the Superintendent and Resident Physician of The Mary Fletcher Hospital, and who is permitted to refer to Bishop Bissell of Vt., Pres. Dwight of Yale, Pres. Buckham and Drs. Grinnell, Wheeler, and Witthaus of the University of Vt.; also, to Hon. G. G. Benedict, Rev. L. G. Ware, and Rev. Dr. Bliss of Burlington, Vt.; and to Dr. F. W. Page, Boston, Mass., and Dr. H. P. Stearns, Hartford, Conn. An entirely new Sanitarium, delightfully situated with lake and mountains in plain sight, and provided with all modern conveniences and needed appliances. The S. Wier Mitchell Rest Treatment a specialty.

BROOKLYN HOME FOR HABITUÉS,

OPIUM, CHLORAL, COCAINE,

Dr. J. B. MATTISON, Medical Director,

185 Brooklyn Ave., bet. Park and Prospect Places, BROOKLYN.

The only Home of its kind in the world.

One quarter free.

Delightful location, charming surroundings, attractive apartments, desirable privacy, cheerful society, and *personal exclusive* professional attention, based on nineteen years' experience in the study of this disease. Details if desired.

THE HARTFORD SANITARIUM,

CORNER PARK ST. AND PROSPECT AVE.

A ***strictly private*** retreat for the treatment of Inebriety, the Opium and Chloral habits, and all forms of Nervous Diseases. Grounds comprise 22 acres of lawn, wood and meadow land, lying partly within and partly without the city limits. Horse cars direct from the grounds to all parts of the city. Fresh vegetables, milk, and fruit in abundance. Terms moderate. For circular, with full particulars, address H. DETCHON, Supt., Box 588, Hartford, Conn.

LAKE VIEW RETREAT.

A Private Institution for the Care and Treatment of Mental and Nervous Diseases.

Located at Burlington, Vt. Extensive view of Lake Champlain, Adirondack and Green Mountains. High rooms—large sunny windows—steam heat in every room—pleasant walks and drives. Patients are members of the Doctor's own family, affording a comfortable home while under constant medical treatment and the care of experienced nurses.

Special rates for continued cases.

Address, for circular, terms, etc.,

DR. J. M. CLARKE, Burlington, Vt

HEALTH! REST!

TO PHYSICIANS

Desiring to send Patients away from Home for Change of Scene, in Connection with Systematic Regimen and Oversight.

ESTABLISHED IN 1858.

OFFERS EXCEPTIONAL ADVANTAGES.

Under the personal care and management of a

Permanent Staff of Regularly Educated and Experienced Physicians.

Extensive apartments for treatment arranged for individual privacy. Skilled attendants. All forms of baths, Electricity, Massage, Swedish Movements, etc., scientifically administered.

Hillside location, 1,200 feet above sea level, overlooking charming upland and valley views of Genesee region. Pure spring water from rocky heights. Clear, dry atmosphere, free from fogs and malaria. Perfect drainage and sewerage systems. Delightful walks and drives.

Elegant (brick and iron) fire-proof main building and twelve cottages, steam heated, and designed to meet every requirement of invalids or seekers of rest and quiet. A liberal and wholesome table.

Comfort without care; freedom from the taxations of fashionable life and from the excitements and temptations of Summer resorts.

Especial provision for quiet and rest, also for recreation, amusement, and regular out-door life.

Telegraph, telephone, electric bells, safety elevator, and all modern appliances for comfort and health.

On direct line of Delaware, Lackawanna & Western R. R., between New York City and Buffalo. Only nine hours from New York.

OPEN ALL THE YEAR.

For circulars and other information, address

J. ARTHUR JACKSON, Cor. Secretary,

Dansville, Livingston Co., New York.

Formerly Jackson & Leffingwell.

Please mention MEDICAL RECORD.

of the summits of the Green Mountains. It is about two thousand feet above the sea. Congress Hall is an excellent hotel. At Alburg's Springs, on the shores of Lake Champlain, is an alkaline spring, containing an excess of sulphide of potassium. Its chief constituents are bi-carbonate of lithia, bi carbonate of magnesia, and bi-carbonate of lime. The Alburg Springs House is a comfortable place to stop at.

The eastern section of Massachusetts contains a number of popular summer resorts, situated upon its low, sandy beaches. Sea breezes are almost continuous throughout the summer, and keep the temperature at a comfortable point. The little villages scattered about on Cape Cod are full of boarding-houses which receive summer visitors at moderate rates. All the larger towns on the coast are cool and healthful places. Martha's Vineyard and Nantucket are both, from their insular positions, delightfully cool throughout the summer, and afford many attractions, especially Nantucket, for a quiet resting-place, far enough from the turmoil of the world. In the western part of the State are the Berkshire Hills, a section which has long been famous for its picturesque beauty, and invigorating, healthful atmos phere. Here are found Great Barrington, Stockbridge, Lenox, Pittsfield, and South and North Adams. Near Great Barrington are the Berkshire Soda Springs, said to contain chlorine, carbonic acid, soda, and alumina.

Block Island (Spring House), off Narragansett Bay, is a quiet retreat which is increasingly patronized, reached by daily steamers. Watch Hill, also in Rhode Island, near Stonington, is crowded with excellent summer hotels, among which the Larkin House stands pre-eminent, and, being upon a high point jutting out into the Sound, is almost always cool and pleasant. Of Newport and Narragansett Pier it is only necessary to speak. Accommodations may be had at either place to suit the purse of the traveller.

The south shore of Connecticut, bordering upon Long Island Sound, is an excellent place to escape the heat of summer, all of the towns and villages having excellent hotels, and some, especially intended for summer occupancy only, are found upon the points jutting out into the water. Among these may be mentioned the Indian Harbor House and the Lenox House at Greenwich, handsome buildings immediately upon the water. Farther east are the towns of Stamford, with Shippan Point adjacent (Ocean House), Fairfield, which has a magnificent sandy beach, and one of the best harbors on the coast, at Black Rock. Then come Stratford, Milford, and West Haven. Further eastward the shore is not so picturesque, but has, nevertheless, a number of popular resorts. At the mouth of the Thames River, near New London, is the celebrated Pequod House, one of the most fashionable summer places along the shore, and on the opposite side of the river is the Fort Griswold House. The State of New York is particularly rich in summer resorts, from the sandy sea coast of Long Island to the densely wooded Catskills and Adirondacks, and the mineral springs so numerously scattered throughout the State. The south shore of Long Island is low and sandy, and protected for sixty miles of its western portion by an outlying bar, enclosing several large bays, chief of which is Great South Bay. After passing the eastern extremity of Shinnecock Bay, the ocean breaks immediately upon the shore of the island for the remaining thirty miles of its length. Statistics which appear to be reliable have been published, showing that in this latter section no case of malaria has ever been recorded. The water is particularly pure and clear. No mineral springs exist on the island. The north shore of the island is in the main rocky, and more or less elevated above the water. It does not possess the refreshing coolness which the breezes coming directly from the ocean bring to the residents of the southern shore.

At the extreme eastern end of Long Island, in Peconic Bay, is Shelter Island (Manhanset House) which is a pleasant place of rest, opposite Greenport, a quiet little village, having pleasant drives.

Among the mountains on the west shore of the Hudson River, the Shawanguck and the Catskills contain many delightful places of escape from the heats of other sections. For those who like the society of refined and Christian people, no better stopping places can be found than the hotels kept by the Smiley Brothers, at Lake Mohonk (Lake Mohonk House) and Lake Minnewaska.

Saratoga is hardly a place a physician would advise his patients to spend the summer at, except for such benefit as he might wish them to derive from the drinking of its waters. Its hotels are magnificent, and it has some most delightful drives. It is crowded with fashionable people. Those who can obtain pleasure chiefly from association with other people can find no better place perhaps than Saratoga Springs. The waters of its springs have been frequently analyzed, and most of them are on record. We will be pleased to supply to any physician who desires it the analysis of any special spring, if it has been made, on application.

The Adirondack region has long been celebrated for its healthfulness, many of our best physicians claiming that, especially for those with pulmonary troubles, it is an all-year-round place of residence, its high altitude and its wooded character seeming to produce an atmosphere especially beneficial to those in the early stages of such troubles. Here, too, as we have already noted, immunity may be had from the distressing conditions of hay-fever. It is almost crowded with small lakes of the purest water, and it is generally upon the shores of these lakes that the hotels are situated and that camps are formed.

Not all of the mineral springs of the State are situated in localities which are especially pleasant for summer outing, some of them being in the vicinity of large towns or cities. Others are more favorably located, in the midst of rural scenes and away from the disturbances of urban places.

To the southwest of Saratoga are the Ballston Springs, possessing very nearly the same properties as those of Saratoga. The only warm springs in the State of New York are situated at Lebanon, Columbia County, N. Y., temperature 73° F. The water is principally used for bathing.

Sharon Springs, in Schoharie County, N. Y., are sulphur and magnesia waters. In this section are delightful rides, through Cherry Valley, Cooperstown, and in other directions. Cooperstown itself is a most healthful and pleasant place in which to pass the heated term.

Richfield Springs, Otsego County, N. Y., at the head of

PRIVATE HOSPITALS, SANITARIUMS AND RETREATS.

HIGHLAND HOME.

For the care and treatment of invalids (number limited to eight) suffering from nervous diseases, nervous prostration, or other chronic troubles; also, convalescent patients desiring a change of air, with all the comforts of a home. Refer by permission to Dr. J. H. Ripley, 605 Lexington Ave., N. Y. City; Dr. V. P. Gibney, Park Ave. and 35th St., N. Y. City; Dr. Stephen Smith, 574 Madison Ave., N. Y. City; Dr. A. Vander-Veer, 28 Eagle St., Albany, N. Y.; Dr. E. H. Parker, 66 Cannon St., Poughkeepsie, N. Y. For particulars, address

S. E. CHACE, Highland-on-Hudson, N. Y.
Opposite Poughkeepsie,

Special Terms on YEARLY Contracts to Private Hospitals, Sanitariums, and RETREATS.

WM. WOOD & CO., Publishers,
56 & 58 Lafayette Place, New York.

GLENREAR,

GREENWICH, - - CONNECTICUT.

DR. T. M. FRANKLIN.

Home Treatment for *Four* Patients with *Mental* or *Nervous Diseases.*

Dr. T. M. Franklin, recently Medical Superintendent of New York City Lunatic Asylums (Blackwell's and Hart's Islands), is prepared to receive, for care and treatment, four patients whose condition will permit them to join the family. Private nurse for each, if necessary. House has modern conveniences. Twenty-seven acres of meadow and wood. Attractive glens and pretty cascades. Inquiries may be addressed to Box 443, Greenwich P. O. Interviews in New York City by appointment.

CONSUMPTIVES.

Especial attention devoted to patients requiring change of climate on account of pulmonary or neurasthenic diseases. Altitude, 2,500 feet. Atmosphere pure and dry. No malaria. Freedom from fog. Pure mountain water. Equable temperature. Perfect natural drainage. Excellent accommodations, both hotel and private. All advantages of a semi-tropical climate, combined with a mountain altitude and dry air.

For particulars, address

JNO. C. KING, M.D.,
BANNING, CAL.

Please mention MEDICAL RECORD.

PRIVATE SANITARIUM
—OF—
LUDWIG WEISS, M.D.,

593 Lexington Avenue,
Cor. 52d Street, - New York City
Telephone Call: 577 39th Street.

The undersigned begs leave to inform the profession that he hopes to meet a long-felt want by enabling physicians to provide, for such of their patients as may require it, a place where they can avail themselves of the facilities of a hospital and the home-like surroundings of a well-equipped private institution.

Scope of diseases admitted: Cases of *general medical practice* and *surgery*; cutaneous and venereal diseases; mild *nervous* and *mental* cases.

Accessory curative appliances, such as: *Pneumatic Cabinet, Inhalations, Hydrotherapy,* are provided for. Microscopical Examination of Sputa and all Secretions and Excretions made.

Physicians entrusting their patients to the institution may retain ENTIRE charge of their cases, and every courtesy will be shown the profession.

Prices from $25.00 to $50.00 per week.

For terms please apply to DR. LUDWIG WEISS, 744 Lexington Ave., New York.

References by permission:

DR. A. JACOBI, DR. D. B. ST. JOHN ROOSA,
DR. E. G. JANEWAY, DR. W. K. OTIS,
DR. A. L. LOOMIS, DR. GEO. F. SHRADY.

PRIVATE MATERNITY AND SANITORIUM, BROOKLYN.

Perfectly appointed, with home comforts, for the reception of a few first-class lying-in cases, and the treatment of all diseases of women. Resident and consulting physicians of high standing. Location healthy and delightful. Physicians of good repute may attend their own cases if so desired. MRS. B. WILSON, Principal, 1250-52 Bushwick Ave. (near Halsey St.), Brooklyn, N. Y.

A HOME *and* SCHOOL *for* Delicate and Backward Boys.

Dr. Williamson's Institution, New London, Conn., receives ten boys, who, from delicate health, or other reasons, are unfitted to enter the classes of ordinary schools. Thorough individual training, both mental and physical. Delightful situation—eighteen acres overlooking L. I. Sound. For terms, and references to physicians and patrons, address as above.

SOUTH FLORIDA SANITARIUM,

SANFORD, FLORIDA.

All chronic diseases treated. Baths of all descriptions. Electricity in its various forms. Swedish Movement, Massage, Oxygen, Compressed Air, etc. New buildings, healthy location, competent nurses.

FRANK H. CALDWELL, M.D., Supt

PRIVATE HOSPITAL

(ESTABLISHED IN 1875)

For Treatment of Diseases of the

Lungs, Throat, Nose, Mouth, and Ears.

Consulting Staff:

J. R. LEAMINO, M.D. R. P. LINCOLN, M.D.
F. N. OTIS, M.D. D. B. ST. JOHN ROOSA, M.D.
J. BLAKE WHITE, M.D.

This institution has been completly refurnished with every requisite that experience has proved necessary for the most scientific methods of treatment of the disease of these organs in both adults and children.

Resident physicians and trained nurses in attendance. During the Summer accommodations at the seaside near the city.

For particulars, address

D. H. GOODWILLIE, M.D.,
160 West 34th St., New York.

COUNTRY HOME FOR PATIENTS.

Scarsdale, Westchester Co., N. Y. Harlem R.R. 40 Minutes from Grand Central Station, 42d Street. 20 Rapid-Transit Trains Daily. A Suburban Paradise, Picturesque and Healthy Country; No Malaria, No Mosquitoes, No Nuisances.

A New House, for Summer and Winter Residence, located upon a Hill in a Grove of Old Forest Trees; Natural Drainage and Sanitary Sewage, Steam Heat, Open Fire-places for Wood Fires, Bath-room and Water-closet on each Floor, Perennial Spring Water, Stable for Horses and Carriages, Good Garden.

A Quiet Home, with or without Special Treatment. For terms, state particulars, and address

DR. GEORGE D. CLIFT, "THE FLORENCE,"
169 East 18th Street, New York.
Hours: 9 to 12 A. M., and by appointment.

Parrish's Home for Invalids,

At BURLINGTON, NEW JERSEY.

Founded by JOSEPH PARRISH, M.D.
WILLIAM G. PARRISH, M.D., Proprietor, and personally in charge.
S. J. HOLLEY, M.D., Assistant.

This is emphatically a family home, with the privacy and freedom of domestic life, the patients being under the counsel and guidance of experienced physicians may often avoid the alternative of commitment to a public asylum or hospital.

Disappointment, loss of property, grief, mental strain and worry, overwork, excess in the use of stimulants and narcotics, hysteria, are frequently associated with, or complicated by, Neuralgia, Rheumatism, Gout, Dyspepsia, and even Lung troubles, for all of which appliances are available, in the way of Baths—Massage, Electricity, etc., and the *Oxygen Treatment*, the value of which in incipient Throat and Lung Diseases is generally conceded.

An attractive feature of the Home treatment is the removal of the family during the summer to a country seat in the vicinity, or to the seaside, mountains, or other resort, accompanied by the superintendent and staff.

Terms are arranged with, or for each person according to circumstances and requirements. For further information, call on or address WM. G. PARRISH, M.D., Burlington, N. J.

Please mention MEDICAL RECORD.

ESTABLISHED 1855.

DR. STRONG'S SANITARIUM,

SARATOGA SPRINGS, NEW YORK.

Receives persons recommended to it by their home physicians for TREATMENT, CHANGE, REST, OR RECREATION, And places them under well-regulated hygienic conditions so helpful in the treatment of chronic invalids or the overtaxed.

For Treatment: In addition to the ordinary remedial agents, it has a Sun Parlor and Promenade on the roof. Turkish, Russian, Roman, Sulphur, Electro-Thermal, the French Douche, and all Hydropathic Baths; Vacuum Treatment, Swedish Movements, Massage, Pneumatic Cabinet, Inhalations of Medicated, Compressed, and Rarefied Air, Electricity in various forms, Thermo-Cautery, Calisthenics, and Saratoga Waters, under the direction of a staff of educated physicians.

For Change: This Institution is located in a phenomenally dry, tonic, and quiet atmosphere, in the lower arc of the Adiroudack zone, and within the "Snow Belt."

For Rest: The Institution offers a well-regulated, quiet home, with elevator, electric bells, open fire-places, steam, and thorough ventilation. With cheering influences and avoiding the depressing atmosphere of invalidism.

For Recreation: To prevent introspection, are household sports at all seasons of the year, and in Winter tobogganing, elegant sleighing, etc.; in Summer, croquet, lawn-tennis, etc.

Private professional references furnished upon application. Physicians are invited to inspect the Institution at their convenience. A liberal discount to physicians and their families for board or treatment. Send for illustrated circular. Address

Please mention MEDICAL RECORD. DR. S. E. STRONG, THE SANITARIUM, 90 Circular St.

Schuyler's Lake, forms one of the chief attractions to visitors. Its principal ingredients are sulphate of magnesia and sulphate of lime.

Clifton Springs, in Ontario County, N. Y., are celebrated for their beneficial effects in bilious troubles and skin disorders. The waters are strongly impregnated with the sulphates of lime and magnesia, somewhat similar to the Greenbrier Springs of Virginia. The climate is salubrious and the place quite fashionable.

One of the most delightful and healthful resorts of Western New York is the Jackson Sanitarium, at Dansville, Livingston County. Not far from here are the Warsaw Salt Baths and Sanitarium, at Warsaw, Wyoming County; heavily laden brine, from wells fourteen hundred to two thousand feet deep, afford an inexhaustible supply of pure salt water for bathing purposes.

The building of the Jackson Sanitarium, which is very large, is situated upon the side of the hill twelve hundred feet above sea level, and commands a magnificent view of the beautiful Genesee Valley. Every comfort, combined with professional attendance, may be had here.

Chittenango Springs, in Madison County, are situated in the narrow and romantic valley of Chittenango Creek, a little over a mile from the village. The surroundings are extremely romantic and well worth visiting. White Sulphur Springs Hotel is a first-class house. The waters are usually taken before meals, and belong to the calcic class.

Chautauqua Lake is a beautiful body of water, surrounded by hills six hundred or seven hundred feet in height, affording attractive views. Jamestown is the southern end and outlet of the lake. Chautauqua, a little farther up, is well known throughout the country as the annual meeting-place of the National Sunday School Association and the Chautauqua Literary and Scientific Circle. Excellent hotels may be found scattered about on both sides of the lake.

New Jersey.—The northern part of New Jersey is broken by rugged mountains, interspersed with beautiful valleys and streams, filled with fish.

Schooley's Mountain, already referred to, is not far from the City of New York, and is about twelve hundred feet high. On the west side of the mountain is a mineral spring containing muriate of soda and lime, etc., beneficial in dyspepsia and bladder troubles. There are two excellent hotels, the Heath House and Belmont Hall.

Atlantic City is at the present day the most popular seaside resort in this State. It has very numerous hotels and boarding-houses of all kinds.

Cape May, at the southern extremity of the State, is almost insular in its surroundings, with the waters of the Atlantic on one side, the Delaware Bay on the other. Cool breezes prevail throughout the summer. The hotels are numerous and good.

Beach Haven is situated upon a sand bar, with Little Egg Harbor on one side and the ocean on the other. It is six miles from the mainland. Hay fever is said to be unknown. There are good hotels, and many fine cottages.

Further up the coast are the well-known seaside resorts, Asbury Park, Ocean Grove, Seabright, and Long Branch.

Pennsylvania.—Delaware Water Gap, situated at the passage of the Delaware River through the Kittatinny or Blue Mountains, is a favorite place of resort, and has numerous pleasant drives, as well as innumerable walks through the woods upon the mountains.

Mauch Chunk is situated among some of the wildest scenery in the country, and has much to make it attractive to the tourist.

Altoona, on the Pennsylvania Railroad, is surrounded by the wildest and most picturesque scenery. Its altitude is such as to give immunity from hay fever and asthma. The Logan House is first class in every particular.

Crescent Springs, Cambria County, is a delightful place, its mountain elevation being such as to prevent the heat from ever becoming oppressive, and the nights are always cool. The springs are seven in number, and contain iron, lime, and magnesia. The Mountain House is owned by the Pennsylvania Railroad Company, which does everything to make its guests enjoy themselves.

The purgative waters of Bedford Springs, in Bedford County, are considered especially valuable in cases of anæmia accompanied by excess of adipose tissue. They are always considered useful in enlargement of the liver. The diuretic effect of the water is said to be considerable.

Maryland.—In Maryland, a large and excellent hotel has been erected recently at Blue Mountain Station, in the Blue Ridge Mountains, Washington County (Blue Mountain House). Its altitude is great, and it is surrounded by very picturesque scenery.

Eastern Shore is not considered healthful during summer.

Virginia.—The position of Old Point Comfort, Va., is such as to make it a pleasant resort, both summer and winter. The hotel is very large, and the facilities for boating and bathing unexcelled. The rides are very attractive.

Virginia Beach, reached from Norfolk, has a very delightful hotel in the Princess Annie, with excellent seabathing.

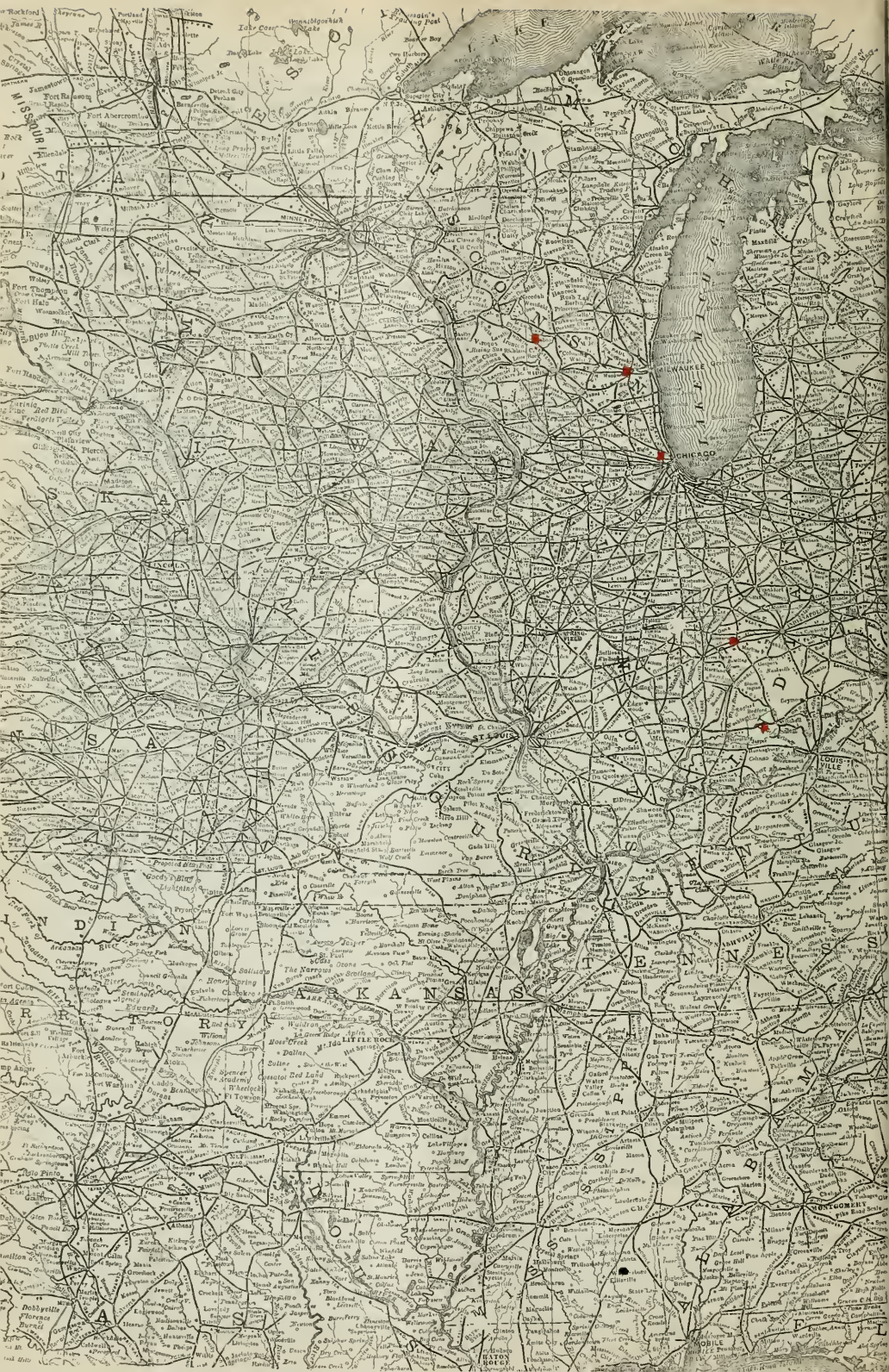
It is in its mountain resorts and mineral springs, however, that Virginia and West Virginia most excel.

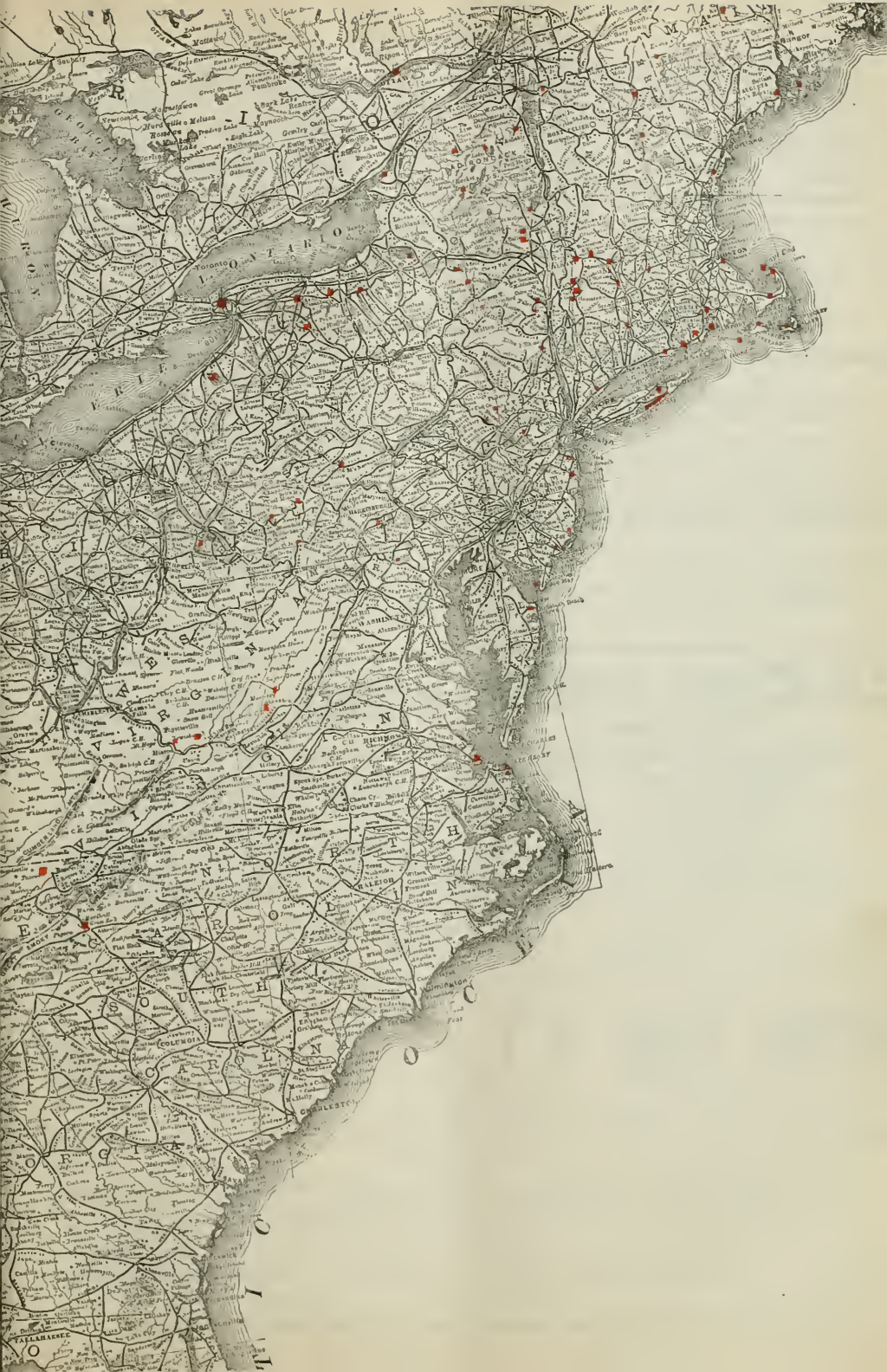
The White Sulphur Springs of West Virginia is the most famous watering-place of the Southern States, and its principal hotel, with its numerous cottages about, is a picture of itself. The waters of the spring contain purgative sulphates, salts of lime, and sulphurated hydrogen. They are aperient and alterative, with marked effects on the kidneys and liver. They are not only used internally, but for baths, both hot and cold. The altitude, of nearly two thousand feet above the sea, insures cool and refreshing air, and restful sleep at night.

The Old and Red Sweet, and Red Sulphur Springs, are sulphur waters producing a sedative effect when taken internally. They also act as cathartic and diuretic.

Bath Alum Springs are near the Warm Springs Mountain, five miles from the spring of the same name. The waters are tonic and astringent, and are indicated in cases of scrofula, dyspepsia, etc.

Rockbridge Alum Springs, in Rockbridge County, near the village of Goshen, are the most esteemed of the alum waters of Virginia; highly valued in cases of scrofula, chronic diarrhœa, leucorrhœa, and chronic eczema. The surrounding scenery is attractive and beautiful.


MILWAUKEE
CHICAGO
ST LOUIS
LOUISVILLE
LITTLE ROCK
MONTGOMERY
MOBILE
ARKANSAS
TENNESSEE
MISSISSIPPI
ALABAMA
INDIANA
ILLINOIS
MISSOURI
KANSAS
NEBRASKA
IOWA
MINNESOTA
WISCONSIN
MICHIGAN
OHIO
KENTUCKY
LOUISIANA
TEXAS
Lake Michigan
Lake Superior
Lake Huron
Lake Erie
Lake Ontario
Mississippi R.
Missouri R.
Ohio R.
Arkansas R.
Red R.


Toronto
Quebec
Montreal
Ottawa
Kingston
Hamilton
Buffalo
Rochester
Albany
Boston
Portland
Augusta
Concord
Burlington
Hartford
Providence
Newport
New York
Philadelphia
Trenton
Wilmington
Baltimore
Annapolis
Washington
Richmond
Norfolk
Petersburg
Raleigh
Fayetteville
Wilmington
Charleston
Columbia
Augusta
Savannah
Milledgeville
Macon
Tallahassee
Pensacola
Mobile
New Orleans
Natchez
Vicksburg
Jackson
Nashville
Memphis
Knoxville
Chattanooga
Atlanta
Montgomery
Huntsville
Louisville
Cincinnati
Columbus
Indianapolis
Chicago
Detroit
Cleveland
Pittsburgh
Harrisburg
Scranton
Syracuse
Rochester
Buffalo
Erie
Milwaukee
Madison
Green Bay
Minneapolis
St. Paul
Duluth
Des Moines
Davenport
Dubuque
Omaha
Lincoln
Kansas City
St. Louis
Springfield
Peoria
Rock Island
Quincy
Little Rock
Fort Smith
Shreveport
Dallas
Houston
Galveston
Austin
San Antonio
Waco
Fort Worth
Abilene
El Paso
Santa Fe
Albuquerque
Denver
Colorado Springs
Pueblo
Cheyenne
Laramie
Salt Lake City
Ogden
Provo
Boise
Portland
Salem
Eugene
Seattle
Tacoma
Spokane
Olympia
Walla Walla
Yakima
San Francisco
Oakland
Sacramento
San Jose
Los Angeles
San Diego
Santa Barbara
Fresno
Stockton
Reno
Carson City
Virginia City
Phoenix
Tucson
Yuma
Flagstaff
Prescott
Tempe
Mesa
Gila Bend
Casa Grande
Florence
Globe
Miami

SUMMER RESORTS.

CONGRESS HALL,

Sheldon Springs, Vt., Opens June 16.

Sanitary conditions perfect; a few steps from the celebrated Sheldon mineral springs and baths, noted for their curative properties. Terms reasonable. For rooms, etc., address

F. WEST, Manager.

Please mention MEDICAL RECORD.

One of the healthiest Summer Resorts in the U. S.

SCHOOLEY'S MOUNTAIN SPRINGS, N. J.

HEATH HOUSE.

This beautiful mountain resort opens June 10. Rates reduced, $12.00 to $16.00 per week. Diagram, circulars, etc., at the Evening Post Building, N. Y. (Room 75). Furnished cottages to let.

J. WARREN COLEMAN, Prop.

W. E. COLEMAN, Manager.

Please mention MEDICAL RECORD.

STRIBLING SPRINGS,

ALUM, SULPHUR, and CHALYBEATE WATERS,

SHENANDOAH MOUNTAINS, VA.

Rebuilt and is the best appointed house in the Virginia mountains. Table first class. New owners. Send for circular.

CHICHESTER & STEWART,

Post-Office, Stribling Springs, Va.

Please mention MEDICAL RECORD.

SHARON SPRINGS, N. Y.

PAVILION HOTEL, OPEN JUNE 15.

European Applications of Sulphur Water. Inhalation, Pulverization, Baths, Douches

— FOR —

Rheumatism, Catarrh, and Skin Diseases.

Pamphlets, list of houses, and prices, gratis.

Please mention MEDICAL RECORD. JOHN H. GARDNER & SONS.

SHREWSBURY, MASS.

Highland Farm House Now Open.

High ground, pure air, spring water, large rooms, broad piazzas, shady grounds, open fire in parlor; centrally located near P. O. and church. No dust, fine views, just the place for rest and comfort. Good table, plenty of fruit, berries, milk, eggs, etc., of our own production. Stable connected. Terms, $7 to $10 per week, according to room.

Please mention MEDICAL RECORD. HIRAM W. LORING.

CATSKILL MOUNTAIN HOUSE.

69th Season. Open June 20. Best location in the Catskills. 15 degrees cooler than New York.

CATSKILL MOUNTAIN HOUSE CO.,

(Send for Circular.) CATSKILL, N. Y.

Please mention MEDICAL RECORD.

THE PAINTER HOTEL,

PASADENA CALIFORNIA.

Elevation 1,000 feet above the sea. Thirty miles from the coast. Magnificent view of Pasadena, the San Gabriel Valley, and the Sierra Madre mountains. Fine drives. Pure mountain water. Sanitary conditions perfect. Table fully up to the standard. A home to spend a season in a mild climate, amid sunshine, fruit, and flowers. Street cars pass the door. Free 'bus from trains.

Mean January Temperature, 52. Mean July Temperature, 67.

Address **M. D. PAINTER, Prop.**

Please mention MEDICAL RECORD.

CALEDONIA SPRINGS

ONTARIO, CANADA,

Sanitarium and Summer Resort,

OPENS JUNE 10th.

Rheumatic, Dyspeptic, and Cutaneous Diseases.

T. H. ORTON, M.D., Resident Physician.

Three springs: Saline, White Sulphur, and Carbureted Hydrogen Gas Waters and Baths. Every class of accommodation. For guide giving analyses, medical opinions, routes, fares, hotel rates, and other information, address

GRAND HOTEL CO.,

Please mention MEDICAL RECORD. CALEDONIA SPRINGS, ONT., CANADA.

RICHFIELD SPRINGS, N. Y.

The New Bathing Establishment.

UNSURPASSED IN THE WORLD.

The American Dermatological Association passed the following unanimous vote: "It would place upon record its high appreciation of the very extensive and complete equipment provided in Mr. Proctor's establishment for its varied application in all classes of disease in which it has been shown to be beneficial. The medical profession in America may congratulate itself upon now having at home, under the control of so competent a proprietor, baths which are not surpassed in adaptation to its purposes by any in Europe."

In this journal of May 2, 1891, Dr. Kelly writes: "As an instance worthy of emulation, I may mention the new bath-house and its appurtenances at Richfield Springs, N. Y. In adaptability of architectural design, in arrangement and variety of its baths, and in scientific facilities for the therapeutic employment of the waters, I commend it as a model up to date. Withal, a competent resident physician is in charge, with an office in the bath-house, in complete supervision of all therapeutic measures which the place affords.

DR. C. C. RANSOM, 56 W. 49th St., New York, Physician in Charge.

SPRING HOUSE OPEN JUNE 20th to OCTOBER 1st.

Unexcelled by any Summer Resort Hotel.

Illustrated Pamphlet. **T. R. PROCTOR, Prop.**

Please mention MEDICAL RECORD

Saratoga Springs, N. Y.

"The pure, dry air of Saratoga induces health, happiness, and longevity, and Nature has marked it as the greatest Spa on earth."

THE WINDSOR HOTEL,

Open from June 1 to October 1.

Send for illustrated pamphlet to

WILLARD LESTER, Manager.

Please mention MEDICAL RECORD.

In corresponding with Advertisers please mention MEDICAL RECORD.

The Berkeley Springs, in Morgan County, W. Va., are chiefly used for baths. They are thermal waters. Every facility is provided for bathing and swimming. It is one of the most fashionable and popular resorts in the country, as is also Capon Springs, on North Mountain, W. Va., the Capon water, containing silicic acid. magnesia, soda. bromine, iodine, and carbonic acid gas, recommended for affections of the nervous system.

The Bedford Alum Springs are somewhat similar in character to the waters of the Rockbridge Alum Springs, and are decidedly useful in all anæmic conditions.

The Buffalo Springs of Mecklenburg County are of great value in inflammation and irritation of the bladder and kidneys. Immense quantities of the water are bottled and transported to all sections of the country. They are endorsed by the highest medical authorities.

The western section of North Carolina consists of high table-lands, with lofty ranges of mountains. The climate at all seasons of the year is salubrious, the temperature being very equable. Asheville is a thriving place, situated in the valley of the French Broad River, and surrounded by mountains. There are white sulphur springs in the vicinity of the town, and beautiful drives in every direction—a delightful place to spend several weeks.

In Michigan, Grouse Isle, Saginaw Bay, and Mackinac Island are places of considerable popularity, and much frequented during the heated term.

The St. Louis Mineral Springs, in Gratiot County, are strongly alkaline, with traces of iron, and some of the salts of lime; said to be useful in cases of dyspepsia and neuralgia. They are situated in the midst of pine forests.

Devil's Lake, Lake Geneva, and Waukesha are much resorted to in the State of Wisconsin.

Among the Western Catskills, at Stamford, is Churchhill Hall, eighteen hundred feet above tidewater. It has all the advantages of dry, bracing mountain air, and every comfort.

A most delightful place to spend a few weeks is Penobscot Bay, in Maine, at the Ilesboro Inn.

Adirondacks.—The number of heathful and pleasant places scattered about in this region is very large. Among those best known are Blue Mountain Lake (Prospect House), the Lower Saranacs (Hotel Ampersand), Paul Smith's.

Not far from New York, in Orange County, is Greenwood Lake, a very beautiful, narrow body of water, enclosed by rugged mountains, with clear, deep waters, which abound in black bass.

Helderburg Mountains, not far from Albany, are becoming a favorite place of resort. The commanding views of the mountains of Massachusetts, Vermont and Northern New York, are very attractive.

For those who desire to spend some time upon fresh water, among the most attractive and romantic scenery possible, the Thousand Islands of the St. Lawrence, and Alexandria Bay, offer attractions which are not to be surpassed. The Thousand Island House at the latter place is an excellent hotel.

The region about Lake George has many resorts, both fashionable and more quiet, which extend many attractions, in the form of pure mountain air combined with excellent boating and fishing.

Trenton Falls, on West Canada Creek, north of Utica, is an exceedingly romantic place, surrounded by mountains and forests.

Watkins Glen, near the village of Watkins, is one of the most delightful places to spend a few weeks in the State, with numerous excellent hotels.

HOTEL WESTPORT,
WESTPORT POINT, - - MASS.,
Between Newport and Buzzard's Bay. Cozy and select; fronts Horseneck Beach; warm ocean bathing, ocean and river fishing and boating, lovely drives and groves, spring water and perfect drainage; service and cuisine unrivaled. Opens July 1, 1891. For circulars, address HENRY A. BROWN, Saxonville, Mass., until June 20, after which, Westport Point, Mass.

LONG POINT HOTEL,
LONG POINT, N. Y.,
on Seneca Lake (near Watkins Glen). No mosquitoes, no malaria; bowling, archery, tennis, boating, bathing and fishing; good livery; a first class orchestra; weekly hops; table and service unsurpassed; transient, $2 per day and upward; special rates for families. Address
HARRISON S. DOWNS, Hotel Metropole, N.Y.City.

CONTINENTAL HOTEL,
NARRAGANSETT PIER, R. I.,
Will Open July 1, 1891.
Free carriage to Beach and Casino. Special rates or those coming when house opens.
CLARK N. SCOFIELD, Manager.

HOWLAND HOTEL,
LONG BRANCH, N. J.
This select family hotel will open for the season June 25; cuisine and table service are noted for their excellence; special rates made for the season; apartments can now be engaged at the Albemarle Hotel, Madison Square, New York.
HENRY WALTER, Proprietor.

OCEAN VIEW HOTEL
Block Island, R. I., Opens June 27.
15 MILES AT SEA; steamboats daily to and from NEW LONDON, NEWPORT, and PROVIDENCE; telegraphic communication For terms, circulars, etc., address until June 15,
F. C. CUNDALL, East Greenwich, R. I.

HOTEL BELLEVUE AND COTTAGES,
Milford, Pike County, Pa.
Now open for the reception of guests. This is one of the finest and healthiest Summer resorts in the country; beautiful scenery and drives; no mosquitoes; good fishing; accommodations of highest order; choice rooms; superb table and service. For rooms or other information apply at 71 Broadway, Arcade Cigar Store, or on premises at Milford.

NEWPORT, R. I.,
OCEAN HOUSE,
OPENS JUNE 25, 1891.
For illustrated pamphlet, "Newport and its Advantages as a Summer Resort," address
J. G. WEAVER, Proprietor, Newport, R. I.,
or J. G. WEAVER, Jr., Manager,
Everett House, Union Square, N. Y. City.

PEQUOT HOUSE,
NEW LONDON, CONN.
Also, a number of desirable FURNISHED COTTAGES. For rooms and information apply to GRAND HOTEL, Broadway and 31st St., New York, on Wednesdays and Thursdays, or to the PEQUOT HOUSE.
JOHN CHATFIELD.

ADIRONDACKS.
BLUE MOUNTAIN LAKE,
HAMILTON COUNTY, NEW YORK.
PROSPECT HOUSE.
ANNEX... NOW OPEN.
GEO. W. TUNNICLIFF, Manager.
Address until July 1, No. 1 Broadway, New York City.

GLEN TOWER,
DOBBS FERRY-ON-THE-HUDSON.
Opens June 20; by boat or train; 40 minutes from Grand Central Depot; 5 minutes' walk from depot. Especially adapted for business men. For information apply to Victoria Hotel, between the hours of 3 and 6 P.M., every afternoon except Saturday.
EWEN HATHAWAY, Proprietor.

MASSAPEQUA, L. I.,
Formerly South Oyster Bay.
To let, for the Summer, fully furnished; eleven bed-rooms; all modern conveniences; large stable; horse and cow; this place was formerly the Bronson property; one hour on L. I. R. R.; eight miles this side of Babylon, on the Great South Bay; rent moderate.
E. H. LUDLOW & CO., 45 Liberty St.,

HOTEL CHAMPLAIN.
CLINTON COUNTY, NEW YORK,
WILL OPEN JUNE 23.
New York Office, at the Lincoln Safe Deposit Co., 88 East 42d St., in charge of Mr. Romer Gillis, where plans of Hotel and Cottages may be seen and all information obtained.
E. N. WILSON Manager.

In corresponding with Advertisers please mention MEDICAL RECORD.

SUMMER RESORTS.

ADIRONDACKS.

ON LAKE MASSAWEPIE.

SECOND SEASON. One of the most healthful and beautiful locations in the North Woods. The hunting and the fishing positively unsurpassed. Hotel and cottages new, with modern improvements. Illustrated book, with map and full particulars, mailed upon application. Address

CHILDWOLD PARK HOUSE AND COTTAGES,
22 Pemberton Square, Boston, Mass.

LONG BRANCH,

WEST END HOTEL,

Cottages and Restaurant open June 13,

HOTEL OPENS JUNE 20.

Transient rates, $4.00 a day and upward.
Weekly rates, $25.00 and upward.

D. M. & W. E. HILDRETH.
New York Office, Metropolitan Hotel.

THE KUSHAQUA,

Altamont, Helderbergh Mountains, N. Y., sixteen miles west of Albany, on the Delaware and Hudson Canal R. R. Opens June 25th. Most accessible and charming mountain resort in America. For circulars and terms, address

STANLEY H. WETMORE & CO.,
31 Broadway, N. Y. (Room 34).

Nyack-on-the-Hudson.

NEW TAPPAN ZEE HOTEL.

Season opened May 15.

Send for descriptive circular.

W. W. PALMER.

Huguenot Chalybeate Spring House,

HUGUENOT, ORANGE COUNTY, N. Y.

Reached via N. Y., L. E. and Western, or Ontario and Western Railways, without change of cars. Newly furnished. Accommodates 100. For particulars and terms apply as above, or

ELLIS E. WARING,
10 Wall Street, Room 67, N. Y. City.

LONG POINT HOTEL,

LONG POINT, N. Y.,

on Seneca Lake (near Watkins Glen). No mosquitoes, no malaria; bowling, archery, tennis, boating, bathing, and fishing; good livery; a first-class orchestra; weekly hops. Table and service unsurpassed; transient, $2 per day and upward. Special rates for families. Address
HARRISON S. DOWNS, Hotel Metropole, N.Y.City.

LAKE MINNEWASKA,

CLIFF HOUSE AND WILDMERE.

OPENS JUNE 15; ELEVATION 1,800 FEET; scenery unsurpassed. Send for illustrated circular.

ALFRED H. SMILEY, Proprietor,
Minnewaska, Ulster Co., N. Y.

CATSKILLS.

HOTEL ST. CHARLES, HUNTER, N. Y.

2,000 FEET ELEVATION.

3½ hours from N. Y. City. Opens July 1.

Elevator; modern improvements; descriptive circular sent. Address S. H. SCRIPTURE, Mgr., Columbia College, N. Y., or 180 St. James Place, Brooklyn, N. Y.

HATHAWAY HOUSE,

Deal Beach, near Long Branch, N. J.

A first-class family resort; beautiful grounds; fresh vegetables, milk, etc., from Hathaway farm; good bathing. Reasonable rates.

WILLIAM HATHAWAY.

HOTEL CHAMPLAIN,

CHAMPLAIN, CLINTON CO., N. Y.,

WILL OPEN JUNE 23.

NEW YORK OFFICE AT THE LINCOLN SAFE DEPOSIT CO., 38 East 42d St., in charge of Mr. ROMER GILLIS, where plans of hotel and cottages may be seen and all information obtained.

E. N. WILSON, Manager.

HOWLAND HOTEL,

LONG BRANCH.

This select family hotel will open for the season June 25; cuisine and table service are noted for their excellence; special rates made for the season; apartments can now be engaged at the Albemarle Hotel, Madison Square, New York.

HENRY WALTER, Proprietor.

PIGEON COVE HOUSE,

END OF CAPE ANN,

North Shore, Essex Co., Mass.,

Opens June 13. Within 500 feet of the ocean.

E. S. ROBINSON.

WESTERN UNION TELEGRAPH IN HOUSE.

St. Lawrence Hotel,

CAPE VINCENT, N. Y.,

will open June 10 under new management. First class in all its appointments. Fine fishing, boating, driving, etc. Send for circular.

WILLIAM POTTER, Proprietor.

ADIRONDACKS.

MIRROR LAKE HOTEL

LAKE PLACID, N. Y.

Recently purchased by the Lake Placid Hotel Company, of which Paul Smith, of Adirondack fame, is President.

Electric lights, steam heat, elevator, electric bells, and baths. All appointments positively first class. Two thousand feet above tide-water. For circulars and other information send to

CHAS. E. MARTIN, Manager.

HOTEL CASTLETON,

A NEW AND MAGNIFICENT HOUSE,

with elevators and all modern improvements; decorated throughout and elegantly furnished; located on

BRIGHTON HEIGHTS,

Opposite St. George landing, Staten Island.
Opened for season and year-round guests June 1, 1891. JAMES H. RODGERS, Proprietor, formerly of Kensington, Saratoga Springs, late of Coleman House, New York City.

BLOCK ISLAND, R. I.

OCEAN VIEW HOTEL, 15 miles at sea, opens June 27, 1891. Steamboats daily to and from NEW LONDON, NEWPORT, and PROVIDENCE. Telegraphic communication. Address until June 15.

F. C. CUNDALL, East Greenwich, R. I.

JACKSON, N. H.

THE IRON MOUNTAIN HOUSE

opened June 1. Special inducements to early visitors; exceptionally fine table and service the best; open fires, bath-rooms, livery, telephone. June and July are the best months for fishing; best city references. For terms and diagram of house, address W. A. MESERVE, Manager.

ADIRONDACKS,

TAYLOR HOUSE AND 15 COTTAGES.

ON SCHROON LAKE, N. Y.

This popular resort opened June 1. For illustrated circular, etc., address C. F. TAYLOR & SON, Taylor's-on-Schroon, P. O., Warren Co., N. Y.

A Beautiful Summer Resort.

ALWAYS COOL AND NO MOSQUITOES.

INDIAN HARBOR HOTEL,

GREENWICH, CONN.

B. H. YARD, PROPRIETOR.

Situated on Long Island Sound, 28 miles from New York; 46 minutes from Grand Central Depot; 19 miles from Jerome Park. Send for descriptive pamphlet. Mr. Yard at Murray Hill Hotel, Thursday evenings and Friday mornings until noon.

INTER LAKEN HOTEL,

Twin Lakes, Colorado.

Open for the season May 1st to October 15th. 1891. Rocky Mountain Summer Resort. Purest, deepest, grandest body of water in Colorado. Trout and salmon fishing. Excellent hotel accommodations; no bar. Transient rates, $3.00 to $4.00 per day. For special rates and further information, address C. H. Anderson, Mgr., Granite P. O., Col., or A. H. Cronkhite, Jr., Box 1794, Denver, Col.

LONG BEACH, L. I.

A Few Desirable Cottages to Rent.

SEASON JUNE TO OCTOBER.

WATER, GAS, Etc. RENT, $750 EACH.

Long Beach Hotel will Open June 15.

For Cottages or Rooms apply or address JOHN T. DEVINE, Grand Hotel, Broadway and 31st St.

On and after June 1 trains leave foot 34th St., E. R., 7.50, 10.50 A. M.; 3.20, 4.20, 5.20 P. M. Sundays, 8.50, 11.00 A. M.

"THE SAKONNET,"

Sakonnet Point, Little Compton, R. I.

New hotel, within stone's throw of the ocean.

For prospectus, etc., address

J. J. SLOCUM, Box 1034, Providence, R. I.

DORINCOURT,

SCHOOLEY'S MOUNTAIN, NEW JERSEY.

1,650 FEET ABOVE THE SEA.

Opened June 1. A new and competent management will endeavor to make this one of the most popular and select of mountain resorts. For particulars apply as above or Room A, 173 Fifth Ave., New York, RHOADES & CO.

CAPON SPRINGS AND BATHS,

HAMPSHIRE COUNTY, W. VA.

150 miles from Baltimore, 115 from Washington. With its superior mineral waters. Superb summer climate. In a beautiful mountain region. Just the spot to lay life's weary burdens down, and have a lovely summer home. For medical and other testimony, send for pamphlet.

W. H. SALE, Proprietor.

RIDGEWOOD.

A charming family resort, 3¾ hours from N. Y., on Schuylkill River; P. R. R.; boating, etc.; near electric and gravity mountain roads. Open May 15. Beautiful walks and drives. Address SCHMUCKER & STEWART,
Reading, Pa.

ORIENT POINT HOTEL,

ORIENT, L. I.

Boating, sailing, bathing, fishing, driving, music. Opens for season, June 25. For terms, Address F. MILTON WELCH,
140 Nassau St., New York.

PROSPECT HOUSE

AND COTTAGES,

NYACK-ON-THE-HUDSON.

OPEN FOR THE SEASON; house and location unsurpassed; four hundred feet above the river. T. J. PORTER.

SUMMER RESORTS.

Cooperstown, Otsego Lake, N. Y.

THE WELL-KNOWN COOPER HOUSE
WILL OPEN JUNE 30.

Prices, $3.00 to $4.00 per day; $12,00, $15.00 $18.00, and $20 00 per week, according to location and length of stay. Special arrangements for those coming when the hotel opens.

S. E. CRITTENDEN, Proprietor.

1,000 ISLAND HOUSE,

Alexandria Bay, N. Y.,

River St. Lawrence. Opens June 11 for season 1891. Entire new management; no finer fishing in this country; three orchestral concerts daily. For rooms or descriptive book apply to

J. B. WISTAR, Manager.

THE FRONTENAC.

Round Island, St. Lawrence River, N. Y.,

AMONG THE THOUSAND ISLANDS,

Opens June 27. For circulars, terms, etc., address GEO. W. MACAVOY, Grand Hotel, N. Y. City.

MIZZEN TOP HOTEL,

Quaker Hill, Dutchess Co., N. Y.,

WILL OPEN FOR THE SEASON OF 1891,

JUNE 20.

N. S. HOWE, Proprietor.

(Post-office address, Pawling, N. Y.)

MONMOUTH HOUSE,

Spring Lake Beach, N. J.

SEASON OPENS JUNE 27, 1891.

HOUSE ENLARGED AND IMPROVED.

Particulars on application to

L. U. MALTBY,

Hotel Lafayette, Philadelphia, or Monmouth House.

ISLESBORO INN,

(North Islesboro P. O.)

PENOBSCOT BAY, MAINE.

This hotel opens July 1; has high location in centre of bay at Dark Harbor; halls heated, open fireplaces in rooms; experienced manager, insuring good service as heretofore; artesian wells; resident physician at hotel; beautiful views, drives, and walks; livery stable; sail and row boats. Excellent harbor with inside boating, or on the broad Penobscot Bay. Steamboats to Rockland, Camden, Belfast, Castine, Bangor, Mount Desert, meeting East and West trains. Ocean and bay views from all sides of hotel.

N. P. SEWELL, Mgr., 27 School St., Boston.
EDW. S. DIXON. Pres. Islesboro Land & Imp. Co., 715 Walnut Street, Philadelphia.

BEDFORD SPRINGS,

BEDFORD, PA.

HOTEL OPENED JUNE 13.

Write for pamphlet on this great Resort, and the famous

Bedford Springs Mineral Water.

L. B. DOTY, Manager.

Please mention MEDICAL RECORD.

THE BERKSHIRE HILLS

Abound in natural charm, and no region excels in beautiful drives, exquisite scenery, health-giving atmosphere and waters, the surroundings of

THE BERKSHIRE HOUSE.

Fifteenth season. 1891. Circulars.

C. TICKNOR, Great Barrington, Mass.

GLEN SUMMIT HOTEL,

2,000 Feet Above Sea Level.

GLEN SUMMIT, LUZERNE CO., PA.
On the Lehigh Valley R. R., 5 hours from New York and 4 hours from Philadelphia. Opens June 15, 1891. Has unsurpassed advantages for health and pleasure. Superb mountain scenery. Beautiful walks and elegant drives. Electric lights throughout, hydraulic elevator, first-class livery, good fishing, boating, gunning, etc. Trains leave foot of Cortlandt and Desbrosses Streets at 8 A. M., 1, 3.45, and 7 P. M. For circulars, terms, etc., address

CHARLES WENRICK, Manager.

WATER GAP HOUSE,

DELAWARE WATER GAP, PA.

A mountain resort on a spur of the Blue Ridge, healthful and beautiful; hotel modern and complete; water from mountain springs in bedrooms; gas and electric bells. Three hours from New York by D. L. & W. R. R. $15 per week in June and October; $18 in July, August, and September. Opens June 10. **L. W. BRODHEAD.**

THE MONTVERT,

MIDDLETOWN SPRINGS, VT.

Open early in June. Renowned for its high standard of excellence, and with its springs of most remarkable curative virtues, make it a most delightful as well as healthful summer home. Descriptive books and plans.

PAUL SMITH'S
ST. REGIS LAKE

OPENED JUNE 1, 1891.

Largest hotel in the Adirondacks. A. A. SMITH, Owner and Proprietor. P. O. address, PAUL SMITH'S, Franklin County, N. Y.

DUTCHER HOUSE,

Pawling, New York.

This elegant Brick Hotel is now open for the reception of Summer Guests. First class in all departments.

SEND FOR CIRCULARS.

ALBERT CLEVELAND, Proprietor.

DEER PARK AND OAKLAND,

On the Crest of the Alleghanies,

3,000 feet above tide-water.

Seasons Opens June 15, 1891.

These famous mountain resorts, situated at the summit of the Alleghanies and directly upon the main line of the Baltimore and Ohio Railroad, have the advantage of its splendid vestibuled express train service both east and west, and are therefore readily accessible from all parts of the country. All Baltimore and Ohio trains stop at Deer Park and Oakland during the season.

Rates, $60.00, $75.00, and $90.00 a month, according to location. Communications should be addressed to GEORGE D. DESHIELDS, Manager Baltimore and Ohio Hotels, Cumberland, Md., up to June 10; after that date, either Deer Park or Oakland, Garrett County, Md.

MANHANSET

House and Cottages, Shelter Island,

L. I., N. Y., will open June 25. The New York office is open daily, 2 to 5 P. M., at 23 Union Square, Room 7, where applications for rooms and cottages, with board at hotel or for housekeeping, will be received. Send for illustrated pamphlet. H. D. W. LAWSON, formerly of Murray Hill Hotel, Manager.

A DELIGHTFUL RESORT.

Black Rock Beach, Conn.

1½ HOURS FROM NEW YORK.

Bordering on the most picturesque BAY ON THE SOUND.

THE GEORGE, surrounded by handsome cottages. No mosquitoes.

GEO. S. HARRAL, Prop., Bridgeport, Conn.

THE SHELBURNE,

Atlantic City, N. J.

Remains open throughout the year. Every convenience, including passenger elevator and hot sea water baths. Send for descriptive pamphlet.

A. B. ROBERTS.

ATLANTIC CITY, N. J.

The all year health and pleasure resort by the sea.

HOTEL BRIGHTON,

OPEN THROUGHOUT THE YEAR.

F. W. HEMSLEY & SON.

Through vestibule train in three and a half hours with Pullman buffet parlor cars leaves Desbrosses and Cortlandt Streets, 1.50 P. M.

GLEN HOUSE,

WHITE MOUNTAINS.

Opens June 27. A magnificent hotel, superbly located. Table supplied with butter, cream, milk, and vegetables from Glen Farm, and with water from the famous GLEN SPRING. Telegraph and Post-office in house. Take six-in-hand tally-ho coach from Glen or Gorham, N. H., or mountain stage from summit Mount Washington. Address until June 20,

C. K. MILLIKEN, Proprietor,
Portland, Me.

After that GLEN HOUSE, New Hampshire.

THE LOUISBURG,

BAR HARBOR, MAINE.

Open from July 1 to September 15.

Renowned for its superior table and attentive service. Music by a select orchestra. A descriptive circular sent on application. Address the manager until the opening of the season, J. ALBERT BUTLER, care Hotel Brunswick, Boston, Mass. Mr. Butler will be at the Albemarle Hotel, Madison Square, from May 30 to June 6 for engagement of rooms at the Louisburg. **M. L. BALCH, Proprietor.**

BEECHWOOD INN,

JENKINTOWN, PA.

Mrs H. B. Markland & Co. have leased THE BEECHWOOD INN for a term of years, with the intention of making it the most attractive resort in the neighborhood of Philadelphia.

The Inn opened for the season May 16. The cuisine will be thoroughly American, while the service will be French.

BY PERMISSION WE REFER TO

Wm. Pepper, M.D.,	H. C. Wood, M.D.,
S. Henry Norris,	Richard Dale,
Walter Buchanan,	Charles Heebner,
D. Murray Cheston, M.D.,	Henry D. Benner, M.D.

Rooms may be engaged for the season or year and plans seen on application Mondays, Wednesdays, and Fridays, from 2 to 5 P. M., at HOTEL STRATFORD, Philadelphia, Pa.

Please mention MEDICAL RECORD.

SUMMER RESORTS.

BELMAR, N. J.,

is situated on the N. Y. & Long Branch Railroad, in one of the most agreeable and healthy localities to be found. The land is here elevated above tide water and the temperature in summer is probably the most comforting of any seaside resort.

Hotel Columbia, the leading hotel, has a location unsurpassed, directly on the ocean front, within 150 feet of the surf, with nothing intervening.

The house is supplied with all the modern conveniences. For terms, address

FRED. E. FOSTER, Manager, Belmar, N. J.

Please mention MEDICAL RECORD.

CHURCHILL HALL,

STAMFORD, NEW YORK.

Western Catskills, 1,800 feet above tide. Outside the Hudson Basin. Dry mountain air. *Its exceedingly beneficial effect upon Bronchitis, Hay and Spasmodic Asthma, and Incipient Tuberculosis has been thoroughly demonstrated.* Accommodation for 200 guests. Steam Heat, Gas, Electric Bells, Hot and Cold Water in abundance. *Parlor Cars without change from Philadelphia and New York; 5½ hours ride from N. Y.*

S. E. CHURCHILL, M.D.

Please mention MEDICAL RECORD.

CHANGE IN MANAGEMENT.

Fort William Henry Hotel,

LAKE GEORGE, N. Y.

Open June 18, 1891.

New York Office in the "Grenoble,"

57th Street and 7th Avenue.

Management and organization of Hotel PONCE DE LEON, St. Augustine, Fla.

Souvenir book of the lake sent on application.

O. D. SEAVEY, Manager.

Please mention MEDICAL RECORD.

New Grand Hotel,

WESTERN CATSKILL MOUNTAINS,

Opens June 24.

Rates reduced for July; only hotel on the mountain top with direct railroad access; elevation 2,500 feet; 4½ hours from New York. For rates, etc., address S. J. CORNELL, Manager, or F. C. CAMPBELL, Assistant, Hotel Marlborough, Broadway and 36th Street, New York City.

Please mention MEDICAL RECORD.

HOTEL BRESLIN,

LAKE HOPATCONG, NEW JERSEY.

Altitude 1,200 feet.

NO MUSQUITOES.

Fifty miles from New York.

Send for circular.

Will open for the season of 1891 on Thursday, June 25.

GEO. M. BROCKWAY, Manager,

Care Gilsey House, New York.

Please mention MEDICAL RECORD.

BELLEVUE HOTEL,

LENOX, MASS.

This select family hotel opened for the season June 1. Cuisine and table noted for excellence. Splendid location. Livery stable. For information, address

MATHIEU & JOURNET, Proprietors.

HOTEL AMPERSAND,

LOWER SARANAC LAKE,

ADIRONDACKS.

Open all the year. Lighted by gas, heated by steam and open fireplaces. Elevator. The only winter hotel in the Adirondacks. For illustrated circular and terms, address the managers

EATON & YOUNG,

Ampersand, Franklin Co., N. Y.

FENWICK HALL,

SAYBROOK POINT, CONN.

A hotel of superior excellence. Opens June 25 under entirely new management.

Rooms can now be engaged.

J. W. ALMY.

LURAY INN,

LURAY, VA.

A beautifully appointed Inn, complete in all details. Surrounded by superb mountain scenery; one mile from the greatest known caverns; a cuisine of particular excellence. Music and other amusements. Open May 1 to November 1.

FRED. W. EVANS, Proprietor.

THE KITTATINNY,

Delaware Water Gap, Pa.,

now open. A mountain resort celebrated for grandeur of scenery and healthfulness. For circular and terms, address

W. A. BRODHEAD & SONS.

POCOMO MOUNTAIN HOUSE,

MOUNT POCOMO, PA.

2,000 feet above tide-water; accommodates 300; charming scenery; 17,000 square feet of piazza; no malaria. Open to November 1. Send for circular.

E. E. HOOKER & SON, Props.

THE WENTWORTH,

NEWCASTLE, N. H.

The Fashionable Resort

OF THE

North Shore,

Open for Season June 27.

FRANK JONES, Proprietor.

W. K. HILL, Manager.

Please mention MEDICAL RECORD.

THOUSAND ISLANDS,

Central Park Hotel, P. O. Alexandria Bay, N. Y., in the midst of the finest scenery and best fishing grounds in the St. Lawrence River; new hotel; pure water; perfect sewerage; entire relief from hay fever, malaria, etc.; rates two to three dollars day, ten to seventeen dollars week. Send for descriptive pamphlet.

E. E. SPANGENBERG, Manager.

HOTEL WELLESLEY,

WELLESLEY, MASS.,

OPENED JUNE 1st, 1891.

Until June 1st our office will be at the American House, Boston. After June 1st at the Hotel. Special rates for June and September.

RUSSELL & STURGIS, Proprietors.

CANADA'S SUMMER RESORT.

THE IROQUOIS HOUSE

IN THE

BELOEIL MOUNTAINS,

St. Hilaire, Quebec. One hour from Montreal. Open from May 22 to October 1.

B. F. CAMPBELL, Managing Director.

BRANDON HOUSE,

GREENWOOD LAKE, N. Y.,

opened for reception of guests May 28. 2¼ hours from New York city via Erie depot. Morning train from Chambers Street, 9.22; evening, 4.30.

D. EDGAR CLOSE, Proprietor.

MOUNTAIN VIEW HOTEL,

GILMANTON, N. H.

This famous family resort on the New Hampshire life-giving hills, abounding in natural charm, beautiful drives, and exquisite scenery, opens June 1. JOHN L. STODDARD, the well-known lecturer, says: "For complete rest and wonderfully pure air, I know of no place in this country which I deem its equal. Returning from Switzerland, the Tyrol, or the Pyrenees, I have hastened with delight to pass a few weeks on the hills of Gilmanton." Special rates for June. For board and circulars, apply to

FRANK McAULIFFE, Manager.

SCARBORO HOTEL,

LONG BRANCH, N. J.

THIS ELEGANT HOTEL,

newly and handsomely furnished throughout, high-class in all its appointments, with cuisine and service of highest standard, opens June 20, closes Sept. 15, season 1891. Every room has a full view of the ocean. Engagements for rooms can be made at the

Hotel Royal, New York,
RICHARD MEARES, Proprietor,
SCARBORO, Long Branch.
HOTEL ROYAL, New York.

Please mention MEDICAL RECORD.

In corresponding with Advertisers please mention MEDICAL RECORD.

Platt's Chlorides,

The True Disinfectant.

Eleven years of practical daily use, by tens of thousands of intelligent physicians, and by hundreds of thousands of careful housekeepers, has established beyond doubt the value, the usefulness, and the superiority of Platt's Chlorides.

An odorless liquid, clean, stainless, powerful, efficient, and economical, it is peculiarly adapted to all the sanitary needs of the sick-room, and the hygienic demands of the household.

Platt's Clorides is sold in quart bottles only, and by nearly every apothecary in every city, town, or village in the United States. Should there be any practising physician anywhere who may not, as yet, personally know its value, a sample, with descriptive circulars, etc., will be gladly furnished free.

Address, giving both Post and Express Offices,

HENRY B. PLATT, 36 Platt Street, New York.

Please mention MEDICAL RECORD.

RESTORATIVE WINE OF COCA.

For Nervous Prostration, Brain Exhaustion, Neurasthenia, and all forms of Mental and Physical Debility.

This WINE OF COCA is so prepared that it contains the active principle of the leaves in a perfectly pure form. Moreover, it is absolutely free from all those foreign substances which all other wines of coca contain, and which interfere, to a great extent, with its curative influence. It is well known that the cocaine contained in the coca-leaves varies considerably in its proportion; hence, giving to the wines as ordinarily made, uncertain strength, and causing them to be unreliable in their action on the system. In the RESTORATIVE WINE OF COCA the proportion of alkaloid is invariable, and the physician can, therefore, prescribe it with the certainty of obtaining uniform results.

Prof. WM. A. HAMMOND, M.D., says: A winegiassful of this tonic, taken when one is exhausted and worn out, acts as a most excellent restorative; it gives a feeling of rest and relief. **I have discarded other wines of coca and use this alone.** It produces also excellent results in cases of depression of spirits; in hysteria, headache, and in nervous troubles generally it works admirably. It is a simple remedy, yet efficacious and remarkable in its results.

FEBRICIDE.

A Complete Antipyretic, a Restorative of the Highest Order, and an Anodyne of Great Curative Power.

"Febricide" will be found to be possessed of great curative power in Malarial Affections of any kind, and in all inflammatory disease of which Fever is an accompaniment. **For Neuralgia, Muscular Pains, and Sick Headache, it is a Specific.**

Prof. WM. F. WAUGH, M.D., of Philadelphia, writes: In a case of persistent neuralgic headache, worse on awakening, with a possibility of malaria, "Febricide" gave instant relief.

Trenton, N. J., February 22, 1890.

February 12, I was called to visit a young man aged 22 years, suffering from headache and Malarial Neuralgia. I commenced at once giving the FEBRICIDE PILLS, one every three hours, taking in all, eighteen pills. He was cured in three days and his sleep at night was sound and refreshing, which had not been the case before taking the pills.
WM. H. VAN DUYN, A.M., M.D.

New Lisbon, Ohio, Sept. 8, 1890.

I find FEBRICIDE an excellent remedy in reducing temperature in Fever, Rheumatism, and acute trouble generally, at the same time sustaining the patient. I know of no other combination in acute Rheumatism than a FEBRICIDE PILL, together with four of five grains of Soda Salicylate given every three to six hours. By such combination the pain is relieved with amazing rapidity, fever abates, and the disease is cut short at once.
TOM. H. MARQUIS, M.D.

SPRINGVIEW, NEB., November 25, 1889.

I have used your FEBRICIDE with excellent results in our Mountain Fevers (typhoid), reducing, in one case, the temperature from 104⅘ with dry, brown furried tongue in ten hours, to 99⅘ with tongue cleaning promptly and moist, and rapid improvement dating therefrom. Have used Antipyrin in similar cases with no good results.
ALBERT S. WARNER, M.D.

NATROLITHIC SALT.

Containing Sulphate of Soda, Carbonate of Soda, Phosphate of Soda, Chloride of Sodium, Sulphate of Lime, Sulphate of Magnesia, and Carbonate of Lithia. For Habitual Constipation, Rheumatic and Gouty Affections, Biliousness, Corpulence, Dyspepsia, and all Derangements of the Digestive Tract, it is a wonderful remedy. *Does not gripe after administration.*

Samples will be sent free of charge to any Physician who mentions MEDICAL RECORD.

HEALTH RESTORATIVE CO., 90 South 5th Ave., NEW YORK.

In corresponding with Advertisers please mention MEDICAL RECORD.

ESTABLISHED 16 YEARS. BEWARE OF IMITATIONS.

COLDEN'S LIQUID BEEF TONIC

AN INVALUABLE AID IN MEDICAL PRACTICE.

ORIGINAL | COLDEN'S LIEBIG'S LIQUID EXTRACT OF BEEF AND TONIC INVIGORATOR. | LABEL.

Essentially Different from all other Beef Tonics. Universally Endorsed by Leading Physicians.

This preparation, consisting of the Extract of Beef (prepared by Baron Liebig's process), the best Brandy obtainable, soluble Citrate of Iron, Cinchona, and Gentian is offered to the Medical Profession upon its own merits. It is of inestimable value in the treatment of **Debility, Convalescence from Severe Illness, Anæmia, Malarial Fever, Chlorosis, Incipient Consumption, Nervous Weakness,** and maladies requiring a Tonic and Nutrient. It is quickly absorbed by the Stomach and upper portion of the Alimentary Canal, and therefore finds its way into the circulation quite rapidly.

COLDEN'S LIQUID BEEF TONIC appeals to the judgment of intelligent Physicians in the treatment of

ALL CASES OF GENERAL DEBILITY.

By the urgent request of several eminent members of the medical profession, I have added to each wineglassful of this preparation two grains of Soluble Citrate of Iron, and which is designated on the label "**With Iron, No. 1**"; while the same preparation **Without Iron,** is designated on the label as "**No. 2.**"

In prescribing this preparation, physicians should be particular to mention "*COLDEN'S,*" viz., "*Ext. Carnis Fl. Comp. (Colden).*" A Sample of **COLDEN'S BEEF TONIC** will be sent free on application, to any physician (enclosing business card) in the United States. *Sold by druggists generally.*

C. N. CRITTENTON, General Agent, 115 Fulton Street, New York.

GLENN'S SULPHUR SOAP BEWARE OF COUNTERFEITS.

Physicians know the great value of the local use of Sulphur in the **Treatment of Diseases of the Skin.**

CONSTANTINE'S PINE TAR SOAP THE BEST SOAP MADE.

Has been on trial among physicians for very many years as a healing agent. **By far the Best Tar Soap made.**

Wholesale Depot, C. N. CRITTENTON, 115 Fulton Street, New York.

Samples of above Soaps SENT FREE, on application, to any Physician enclosing card. Please mention MEDICAL RECORD

OF INTEREST TO ALL MEDICAL PRACTITIONERS.

WHY "**MUMM**" IS SO POPULAR WITH PHYSICIANS.

G. H. MUMM & CO.'S EXTRA DRY is recommended for its purity, its small amount of Alcohol, and its wholesomness by such eminent physicians as :

Dr. D. Hayes Agnew, Thos. G. Morton, Wm. H. Pancost, - *PHILADELPHIA.*
" Fordyce Barker, Lewis A. Sayre, Wm. H. Thomson, - *NEW YORK.*
" Alan P. Smith, H. P. C. Wilson, - - - - - *BALTIMORE.*
" J. Mills Browne, *Surgeon-General U. S. Navy;* John B. Hamilton, *Supervising Surgeon-General, Marine Hospital Service;* Wm. A. Hammond, Nathan S. Lincoln, - *WASHINGTON.*
" H. Byford, Chr. Fenger, R. Jackson, C. T. Parkes, E. Schmidt, *CHICAGO.*
" A. C. Bernays, W. F. Kier, H. H. Mudd, - - - *ST. LOUIS.*
" A. L. Carson, James T. Whittaker, - - - - *CINCINNATI.*
" Stanford E. C. Chaille, Joseph Jones, A. W. de Roaldes, *NEW ORLEANS.*
" C. B. Brigham, R. B. Cole, Levi C. Lane, J. Rosenstirn, *SAN FRANCISCO.*

"Having occasion to investigate the question of wholesome beverages, I have made a chemical analysis of the most prominent brands of Champagne. I find G. H. Mumm & Co 's Extra Dry to contain, in a marked degree, less alcohol than the others. I therefore most cordially commend it, not only for its purity, but as the most wholesome of the Champagnes."—R. OGDEN DOREMUS, M.D., *Professor of Chemistry, Bellevue Hospital Medical College, New York.*

No Openers required. FOR USE IN SICK ROOMS and families. By a recent and most practicable invention no openers in future will be required for G. H. Mumm & Co.'s Champagne. To break the wire—bring the small seal to a horizontal position, and bend from side to side till one of the wires is broken, pulling upward removes top of cap and wire—done in an instant.

The 1884 vintage has been unexcelled in years, and Messrs. G. H. Mumm & Co secured large quantities of it. Of the 1887 and 1889 vintages, worthy successors to the 1884, Messrs. G. H. Mumm & Co. also bought immense quantities, they making it a rule to lay in sufficient stock of fine vintages to tide over the poorer ones, which accounts for the uniformity and excellence of their justly celebrated Extra Dry, and enables them to supply all demands, while maintaining the same high character of their wine. Please mention MEDICAL RECORD.

capable of resisting other forms of animal, vegetable, and mineral food? 2. Does the Massachusetts lobster, in its natural state, contain the deadly poison; or is the arsenic to be looked for in the food and drink which the animal takes into its stomach. As regards the first question, investigation so far has disclosed the fact that not one of the jurymen had ever resided out of view of the State-House dome, and all had the proper reverence for the Common, Commonwealth Avenue, and the Common Council.

In determining the second point some difficulty was encountered. It was contended that the natural bright red color of the lobster was one scarcely to be obtained without the use of arsenic. This was convincing, and had almost caused a vote that the lobster was a *sui juris* arsenic-bearing crustacean, when a gentleman from Denver suggested that the natural hue of the Colorado lobster was green. This created an animated discussion, and though a Boston poet was quoted to the effect that the lobster was the cardinal of the sea, it was finally admitted that Western lobsters might be verdant, but that, if they were, and it was not due to their environment, it must be attributed to Paris green.

Some one asked if the cans had been examined for ptomaïnes, but this was promptly ruled out of order. An element of doubt was thrown upon the whole matter by the evidence of a chemist, who testified that as he was long-lost treatise on Hindoo medicine with a specimen of wall-is extensively quoted in all standard works on Hindoo medicine. The editor, a distinguished native physician of Shar Beri, in the remote district of Rohtak, in the Punjab, says that he could not procure a complete manuscript anywhere, but had to work on odd chapters from different families of Vaidyas in India.

HOSPITAL MANAGEMENT.

The question of the most satisfactory method of organizing and managing a hospital has been exciting much attention of late. The difficulties or formalities attending the admission of critical cases have led to some adverse criticism of existing systems. The resignation of an entire house-staff on account, it is said, of the arbitrary conduct of the superintendent has also contributed to the timeliness of a discussion on this subject. One of the daily papers has told its readers editorially that hospital superintendents ought always to be doctors. "All the questions," says the *World*, "with which he is called upon to deal require the expert judgment of an experienced physician. Even the business management of a hospital has for its object medical and surgical results, and a layman at the head of such an institution is scarcely less out of place than a surgeon would be in control of a bank or a clergyman at the head of a railroad system."

We must confess that we do not agree with the *World* on this point. There can be no definite rule laid down, save this, that a hospital superintendent should be a man of tact, knowledge, and executive skill. If he is also a doctor this may be an advantage. Roosevelt Hospital never had a better superintendent than the late Dr. Paine. On the other hand, Bellevue Hospital never had a better superintendent than its late warden, Mr. Fallon, a gentleman who came to the institution with no special knowledge of hospital management. It is the right man and not his profession that hospitals need, and sometimes boards of governors are very stupid in their selections. Medical co-operation is particularly needed in this respect, for it is the physicians who are quickest to see the merits or weaknesses in the general business management of the hospital.

It is impossible in this connection not to refer to the gross injustice, both to hospital and profession, brought about by the establishment of rules which prevent the election of medical men to seats on the governing board. This rule, which, as is well known, prevails in some New York hospitals, is a standing affront to the physicians and tends to lessen the feeling of sympathy and desire for co-operation which should exist between the medical and the governing bodies.

OUGHT MEDICAL WOMEN TO MARRY?

The momentous question as to how many trained nurses marry has been investigated and settled in England, to the satisfaction, we trust, of the trained nurse, who is found to be the most marrying of all classes. And now the important topic of whether medical women should marry has been agitating the press of New York. A large number of interviews with medical women have been published with results which are not particularly surprising or fruitful. So far as one can gather from the mazes of femine periphrases, those who have married think that lady doctors can marry, conduct a household, and raise children as well as practise a profession. On the other hand, those who have not married express somewhat contrary views.

It is a little unfortunate that a subject of so much importance has not been flooded with a more searching and vivid luminosity. It looks very much as though every one would have to work the problem for himself.

In dealing with a question which involves so much of human passion and romance, it is necessary for the scientific student to put the curb on at once and get down to basic principles. One of these principles is that an attractive woman is bound to get married whatever be her aspirations or profession. We tender *ex animo* the compliment to our medical sisters of adding that the majority do get married.

It is the fact, then, that most medical women, being attractive and interesting personalities, become wives and mothers. The question is now, therefore, ought they to do it?

We are obliged to say that we do not think they ought. The physician's work is most arduous and exacting. It calls not only for physical toil, but for study, anxiety, the constant attempt at perfecting present skill and adding new accomplishments. This cannot be done fairly and well if the woman bears and raises children. The medical woman should marry only if she can consent to a childless union; or perhaps if she devote herself to some narrow specialty, that makes only short and specific demands on her time.

We are quite aware that there are some brilliant examples of married medical women who have proved themselves devoted wives and mothers as well as skilful practitioners. We generally receive from some of them letters of a didactic and chastening character when we

venture to express opinions upon the subjects of the nature of that we are now discussing. Such letters we always gladly publish, on account of the subtle interest which is always attached to the attempts of woman to reason clearly and dispassionately. Our columns are open still, for some time we think they can do it.

News of the Week.

The Late Dr. Fordyce Barker.—At a meeting of the Medical Board of Bellevue Hospital, held June 1, 1891, the following resolutions were adopted:

Resolved, That it is with the deepest sentiments of regret that this Board has learned of the death of Fordyce Barker, M.D., LL.D., who has been identified for so many years with the medical staff of this hospital as one of its most distinguished and deservedly esteemed members; that his removal at this time is felt by his colleagues as a special loss to the institution.

Resolved, That in Dr. Barker his colleagues have always recognized a man of exceptional endowments both of mind and education, which made him the ornament and pride of medicine, and which caused him to be an example in these respects to all his fellows.

Resolved, That the thirty-five years spent in ministering to the sick in this hospital with the faithfulness to that duty which characterized Dr. Barker, is of itself a testimony to the worth of the life which is now closed. But in addition to this Dr. Barker used the opportunities of his connection with this hospital to teach others by his experience, by his wide knowledge, by his exceptional skill, and by his great literary gifts, to an extent which has been widely appreciated by the whole medical profession in America and abroad.

GEORGE WOOLSEY, M.D.,
Secretary Medical Board.

The Title of Dr. Grandin's Paper.—Dr. E. H. Grandin writes: "Through an error on the part of your stenographer the title of the paper which I read before the Academy of Medicine is stated to have been 'Is Embryotomy of the Living Fœtus Ever Justifiable?' (MEDICAL RECORD, June 13, 1891, page 689). Since I have never claimed, and would never claim, that there are no conditions under which embryotomy will not find justification, and since the correct title of my paper, as taken from my manuscript, occurs on page 641 of your previous issue, kindly do me the favor to state that the word 'ever' does not, and did not, belong in the title of the paper."

The German Poliklinik took formal possession of its new home, No. 78 East Seventh Street, on Sunday, the 14th inst., at which time it was open for inspection by its many friends and patrons. The institution, which was founded in 1883 by seventeen physicians, was located in Sixth Street. The overcrowding of the Poliklinik with the poor, who always found ready hands there to help their ailments, made it a necessity for the trustees to look for a more spacious home. With the help of a few yearly benefit performances and the recently-formed Ladies' Auxiliary Society of the German Poliklinik the trustees felt enabled to purchase the above house. The building, which has been especially adapted for the purpose, answers all the requirements in regard to sanitary condition. Each department has its commodious quarters with all the necessary implements attached. There are spacious waiting-rooms, a drug store, an assembly-room for the medical staff, etc.

The First Successful Amputation at the Hip-joint in America.—Dr. A. H. Hubbard, of Fuerte, Mexico, writes: "I see in your issue of May 9th recorded the death of Dr. John Frederick May, stating that he was the first American surgeon that ever made a successful amputation at the hip-joint. I believe I am correct in saying that Dr. John Sweat, of Parsonsfield, Me., made the first successful amputation at the hip-joint in the town of Conway, N. H., about the year 1845. If I am not correct, I stand committed."

Alaska Indians Suffering from the Influenza.—Advices from Cook's Inlet, Alaska, say that large numbers of Indians near that place are dying from the grip. Within the week ending on May 19th twenty Indians died within a radius of five miles. In a village a few miles distant from the cutting, packing, and canning factory every one had died except two children.

Dr. Philip Platt Kissam, of Jamaica, L. I., died at his home in that village on the morning of June 12th, aged eighty years.

Has been on trial among physicians for very many years as a healing agent. **By far the Best Tar Soap made.**

NTON, 115 Fulton Street, New York.
lotan enclosing card. Please mention MEDICAL RECORD

EDICAL PRACTITIONERS.

Journalistic Change.—It is difficult to follow the rapid and bewildering changes in Philadelphia journalism. The latest announcement is that Dr. H. A. Hare has resigned the editorship of the *Medical News* and that Dr. George M. Gould has succeeded to his place. Dr. Gould has achieved and deserved a distinct reputation for his literary skill. We trust that he will favor his readers with editorial columns which will nullify the criticisms of his predecessor.

Resignation of Professor H. W. Williams.—Dr. Henry W. Williams has resigned the professorship of Ophthalmology in the Harvard Medical School, which he has held since 1871.

The Medical Department of Columbia College.—It is announced that a new committee of the trustees, consisting of Mr. Vanderbilt, Dr. Wheelock, Mr. Mitchell, Dr. Draper, and Mr. Potter, has been appointed on the College of Physicians and Surgeons; that the alumni association of the medical school has founded three fellowships of $500 each for two years; and that Dr. John G. Curtis, the professor of physiology, has given his physiological apparatus to the school.

Political Doctors in Austria.—Among the three hundred and fifty-three members of the Austrian House of Deputies there are ten members of the medical profession. The Austrian House of Lords numbers two hundred and fourteen members, among whom Professor Billroth, Brücke, and Schneider represent the medical profession.

The German Anatomical Society held its fifth general meeting at Munich on May 17th to 19th, under the presidency of Professor v. Kölliker. From seventy to eighty members were present, among whom were Professors Bardeleben (Jena), Bonnet, Braune, Flemming, Froriep, Henke, His, Gerlach, Kollmann, Merkel, Nussbaum, Oellacher, Rabl, Retzius (Stockholm), Schwalbe, Stieda, Strahl, Toldt, Tomiti (Pisa), Waldeyer, and many others. Many foreigners were present, Belgium, Holland, and Italy being particularly well represented. Professor v. Kölliker, in his presidential address, stated that the Society now numbered two hundred and fifty members, and included not only German anatomists but many foreign celebrities. He reiterated an opinion, which he said he had expressed before, that much confusion and loss of time would be saved if scientific papers were written only in German, English, French, or Italian. Good work was done by the Nomenclature Commitee, and the scientific programme included some important papers.

Dr. Ambrose Pratt died at his home in Chester, Conn., on June 18th. He was a graduate of Yale College, in 1837, and served as surgeon in the Twenty-second Connecticut Regiment during the war.

Publication of a Hindoo Medical Work.—The *Indian Medical Gazette* reports the publication of an ancient and long-lost treatise on Hindoo Medicine by Banga Sen, who is extensively quoted in all standard works on Hindoo medicine. The editor, a distinguished native physician of Shar Beri, in the remote district of Rohtak, in the Punjab, says that he could not procure a complete manuscript anywhere, but had to work on odd chapters from different families of Vaidyas in India.

Annual Variations in the Pulse-Rate.—Some one has had the curiosity and patience to keep a daily record of his pulse for a number of years, and reports that it has two cycles of increase and decrease in rapidity each year. It falls gradually and slightly through the spring until about midsummer, and then rises through the autumn to November or December. Then comes a second fall and a second rise, culminating in February.

Cremation in Liverpool.—The growing acceptance of the idea of cremation in Liverpool is evidenced by the fact that a company is arranging to construct a large crematorium in that city. It is said that the existing facilities for cremation are no longer adequate to the demand.

Ice-Cream Poisoning.—Many cases of ice-cream poisoning have been reported recently in Bloomington, Ill. In one case nearly one hundred children and others were poisoned by ice-cream eaten at a church festival, and several of them had narrow escapes from death. A similar result followed the eating of ice-cream at a wedding reception and banquet, and guests at other recent social gatherings have also been made more or less ill by the same cause.

A Woman's Hospital in Bosnia.—The Austrian Government proposes to erect shortly a hospital for women at Sarajevo in the Bosnian territory, and will give it in charge of female physicians. It has advertised that an examination will be held in the coming autumn or winter for applicants to several salaried positions in the staff of the hospital, the compensation being about $50 per month. This is a new name for the Austrian authorities, who have always resolutely done what they could to discourage women from studying medicine. They are forced to it, however, in their desire to conciliate the Bosnians in this comparatively newly acquired province. A woman's hospital is regarded as a powerful auxiliary in this pacification, but it is necessary to put female physicians in charge, as the women in Bosnia will have nothing to do with male doctors.

The Bacteriological World is the title of a monthly illustrated magazine for the study of microbes and diseases of bacterial and parasitic origin, edited by Dr. Paul Paquin, of Columbia, Mo.

Dr. Walter Wyman has been appointed Surgeon-General of the Marine Hospital Service, *vice* Dr. John B. Hamilton, resigned, to accept the position of Professor of Surgery in Rush Medical College, Chicago.

Colleges or Hospitals.—That was a very bright thing Mr. Depew said in his Cincinnati address. "Giving money for colleges," he said, "was better than giving it for hospitals. To give for hospitals was to give for repairs, to give for colleges was to give for construction and equipment." That was easy enough to say when once thought of, but the thinking of it was not so easy.—*Indianapolis Journal.*

Dr. Thomas P. Gary, of Jacksonville, Fla., President of the Florida Medical Association, at one time Mayor of Ocala, and one of her leading and most public-spirited citizens, died on June 10th. Dr. Gary was fifty-five years of age. He ranked high in the medical profession of the State, and his death will be universally regretted throughout Florida.

Dr. Gervis French, of Bainbridge, Chenango County, N. Y., died on June 10th. Dr. French was born in Springfield, Otsego County, N. Y., August 24, 1816, and for many years was a successful physician in this city, afterward retiring and engaging in the manufacture of drugs and medical supplies.

Dr. Grace Danforth, of Dallas, said, in an address to the Texas Medical Society, she had had a predilection for the medical profession since her *boyhood*. The fair physician seems to be a professional descendant of the Hibernian physician, who said that one of his patients came from a family in which it was hereditary not to have any children.—*Medical Standard.*

A Bogus Medical College in Chicago.—The National University of Chicago, chartered in 1889, recently granted a diploma dated 1884 to an Idaho man after about a month's study, according to Dr. T. D. Ross, of Shoshone.—*Medical Standard.*

The Lines Disappearing.— Dr. T. S. Armstrong, Superintendent of the Binghamton State Hospital for the Insane, and a homœopathist of liberal views, has been elected a member of the Binghamton Academy of Medicine, a local society of regular medical practitioners. The leading firm in this country of "homœopathic" chemists have issued prescription blanks without the sectarian designation.

Reviews and Notices of Books.

A Practical Manual of Gynecology. By G. R. Southwick, M.D., Assistant Professor of Obstetrics in the Boston School of Medicine, etc. Pp. xix., 532. Boston: Otis Clapp & Son. 1891.

This work, by a homœopathic *confrère*, is one of considerable merit, being evidently written by a practical gynecologist. We are compelled to take exception to a few of the author's statements. It is to be hoped that elaborate descriptions of the manner of using the uterine sound, especially for the purpose of replacing the uterus, will eventually be banished from manuals of gynecology. It is a dangerous instrument, even for an expert, and the *tour de maître* still taught by some authors is a relic of barbarism. Chapter II., on Minor Surgical Gynecology, is excellent; Chapters III. and IV., on Diseases of the Urethra and Bladder (an unusual situation for them) are weak. The chapter on Perineorrhaphy is fair, although the description of Emmet's operation for rectocele, with the accompanying illustrations, is not so clear as it might be. A valuable chapter on Puberty and the Climacteric has a formidable therapeutical appendage. We can imagine the practical surgeon laughing in his sleeve as he conscientiously fills out the lists of infallibles recommended by the authorities of his school. Amenorrhœa ought to yield to some of the numerous remedies. We read that "the therapeutics of the old school are rather limited, so far as any reliable internal medicines are concerned for uterine hemorrhage." This is true, but it is not such a great misfortune, after all. Dysmenorrhœa is divided into several varieties, according to the old theory, each having its bewildering number of specifics. The chapters on Displacements is fair, except the section on anteflexion, which is ancient history; the same is true of the chapters on Pelvic Inflammation and Diseases of the Ovaries. One of the most commendable features of the book is a concluding chapter on Massage of the Pelvic Organs (well illustrated), and another on Electricity—subjects much neglected by most writers. In general, we can commend this work as a useful working manual, suitable for the general (homœopathic) practitioner. Its value is enhanced by copious foot-notes, lists of authors, monographs, etc.

Diabetes: Its Causes, Symptoms, and Treatment. By Charles W. Purdy, M.D. Queen's University; Honorary Fellow of the Royal College of Physicians and Surgeons, Kingston; Member of the College of Physicians and Surgeons, Ontario; Member of the Association of American Physicians, of the American Medical Association, of the Chicago Academy of Sciences, etc. With Clinical Illustrations. Pp. 184. Philadelphia and London: F. A. Davis.

The author's long experience teaches that diet is the chief source of help in diabetes, and that disregard of the details of dieting constitutes the most frequent cause of failure in controlling the disease. Consequently he enters minutely into the matter, and illustrates his position by many clinical cases. The book is of especial value to Americans, as it brings out prominently the leading features of the disease as it occurs in the United States. His logical deduction is that the climate and waters of parts of America are as well suited to the treatment of diabetes as those of any other country on the globe.

Transactions of the American Association of Obstetricians and Gynecologists. Vol. III. Pp. xlv., 383. Philadelphia: W. J. Dornan & Co. 1890.

The present volume is fully up to the standard of its predecessors, and presents a most attractive appearance, containing as it does no less than four plates and forty-six wood-cuts. The papers are mostly short and to the point. Among the most notable are those by Hoffman, Price, Reed, Kellogg, and Bernardy. Short papers are contributed by Winckel, Freund, and Saenger. Some of the discussions are quite interesting, though occasionally the speakers are inclined to be rather dogmatic. A vein of personality, such as runs through the proceedings of the Philadelphia Obstetrical Society, is sometimes noted. The arrangements of the papers leaves much to be desired, as they are jumbled together without much regard for sequence.

Diseases of the Digestive Organs in Infancy and Childhood, with Chapters on the Investigation of Disease, the Diet, and General Management of Children, and Massage in Pædiatrics. By Louis Starr, M.D., Late Clinical Professor of Diseases of Children in the Hospital of the University of Pennsylvania; Physician to the Children's Hospital, Philadelphia; Consulting Pædiatrist to the Maternity Hospital, Philadelphia, etc. Second edition. Illustrated. Pp. xi., 396. Philadelphia: P. Blakiston, Son & Co.

Dr. Starr's excellent manual needs no introduction. The first edition was issued in 1886 and became immediately popular. The new edition is an improvement on the old, inasmuch as there are added chapters on alterations in the odor of the breath in disease, urine alterations, and massage in pædiatrics. Another important addition is a detailed account of second dentition and its influence on the health in late childhood, a subject which, the author truthfully remarks, has been greatly neglected. The author has brought his work abreast of the times.

The Modern Antipyretics, Their Action in Health and Disease. By Isaac Ott, M.D., Ex-Fellow in Biology, Johns Hopkins University; Ex-President of American Neurological Association; Consulting Physician to the Easton Hospital, etc. Illustrated. Pp. 52. Easton, Pa.: E. D. Vogel.

Dr. Ott's work is a thorough, careful study of fever and the modern means of controlling it. His experiments on the cause of pyrexia are original, and his deductions worthy of careful study. The antipyretics considered are the coal-tar products, most notable of which are antipyrine, antifebrin, phenacetin, and exalgin. His *résumé* of the properties of these drugs fills a want that has not before been fully supplied.

A Contribution to the Natural History of Scarlatina, Derived from Observations of the London Epidemic of 1887–88. By D. Astley Gresswell, M.A., M.D. Oxon. Pp. 205. Oxford: Clarendon Press.

The value of this work is vouched for by the faculty of the University of Oxford. It was the author's dissertation for the degree of Doctor of Medicine, and was printed and published at the expense of the University as a mark of distinction on account of its exceptional excellence. A more complete, careful, scientific study of scarlatina does not exist in medicine, and the book has received unbounded praise from all sides. The cases studied numbered 588, embracing all ages and taking into account all seasons of the year. Each prominent symptom, especially albuminuria and pulse-rate, is studied in detail; chapters are devoted to the influences of age, sex, surroundings, seasons, etc., on the disease, and all in all the work is a masterly and exceedingly valuable one.

Aphorisms in Applied Anatomy and Operative Surgery. By Thomas Cooke, B.A., B.Sc., M.D. Paris; F.R.C.S. England; Senior Assistant Surgeon to the Westminster Hospital, and Lecturer at the School of Anatomy, Physiology, and Surgery. London and New York: Longmans, Green & Co.

This is a book for the student's use in his final examinations, and to help him fix the prominent and important parts of anatomy and surgery in his mind. The book includes 100 typical *viva voce* questions in surface-markings, and a great mass of useful material tersely stated.

Society Reports.

NEW YORK STATE MEDICAL ASSOCIATION. FIFTH DISTRICT BRANCH.

Seventh Annual Meeting, held in Brooklyn, May 26, 1891.

STEPHEN SMITH, M.D., PRESIDENT, IN THE CHAIR.

MORNING SESSION.

AFTER a few introductory remarks by the President, the regular business of the Branch was transacted, including the appointment of a Nominating Committee to nominate members of the Executive Committee for the ensuing year. The Secretary, DR. E. H. SQUIBB, then read the following biographical sketches of deceased Fellows: Dr. James Bathgate, by Dr. John Shrady; Dr. W. N. Blakeman, by A. N. Blakeman, Esq.; Dr. John P. Garrish, by Dr. William T. White.

The Treatment of Hydrocele by Carbolic Injection Versus the Radical Operation.—DR. SAMUEL E. MILLIKEN read a paper on this subject. The radical or cutting operation of Volkmann, and its various modifications, he said, while usually successful in relieving the hydrocele, required the use of an anæsthetic and a week or more in bed should suppuration occur. The method of Levis, by carbolic injection, was practically painless, confinement to bed was in no sense essential, and unless an inordinate amount of carbolic acid (over thirty minims) were used, sloughing ought never to occur. The simplest and most efficient apparatus for the purpose was a small trocar and a hypodermic syringe. After thorough evacuation the syringe was screwed on to the cannula, and the injection could thus be made without a single drop of the acid coming in contact with the skin of the scrotum. When from five to twenty-five minims of pure carbolic acid was distributed over the whole serous surface (two or three minims in each place) nothing more than a sense of warmth was experienced by the patient. After removal of the cannula slight kneading of the sac might be made to insure thorough coating of its walls with the irritant. Usually within twenty-four hours the height of the inflammatory reaction would have been reached; and thus, if a laboring man were injected on Saturday, he would be entirely able to go to his work as usual on Monday morning.

Of 54 cases thus treated by Dr. Milliken at the Hospital for Ruptured and Crippled 9 were never seen after the injection, 5 paid one visit within the first week only, and 4 were at present under observation. All the remaining 36 could be set down as completely cured; and of these 27 had one injection, 4 had two injections, and 5 had three injections. In no case had sloughing occurred, and not one of the patients lost more than twenty-four hours from business. From two to six weeks was necessary for absorption of the exudation to take place, and thickening of the sac might remain much longer than this.

The conclusions reached by the author were as follows: 1. Carbolic injection is a safe method for the cure of hydrocele. 2. It is practically painless. 3. The patient can attend to business without more than one day's delay. 4. The disagreeable effects of an anæsthetic are avoided.

DR. WILLIAM R. BALLOU thought that the injection of carbolic acid was greatly preferable to that of iodine. Hare had collected a large number of cases in which great destruction of the tissues, and one case in which fatal iodine-poisoning, was caused by the latter. The danger of iodine-poisoning seemed to him to be the most serious objection to the use of this agent. He should like to call attention to one point, and that was, that thin sacs do not require carbolic injection. At the New York Polyclinic Dr. Fluhrer used an aspiratory needle three inches long and of rather large calibre in connection with the hypodermic syringe. A solid metal staff having been introduced into the urethra, the fluid was evacuated and a large quantity of carbolic acid (from sixty to eighty minims) was injected into the sac. It seemed to him, however, unnecessary to use such a large amount when such excellent results as those reported by Dr. Milliken could be obtained with a small amount. In cases of Bright's disease the method by carbolic injection was especially indicated, since the Volkmann operation required the use of an anæsthetic, and it was well known how dangerous ether was when disease of the kidneys was present.

DR. WILLIAM T. WHITE said that he had never used carbolic injection, but had always depended on the use of iodine, from which he had never seen any of the bad results that had been spoken of. The first injection was almost always successful; so that it was seldom necessary to repeat it. Sometimes, however, considerable inflammation was occasioned, necessitating the patient's remaining in bed for two or three days, and if this could be avoided by the use of carbolic acid it was certainly a point gained.

DR. MILLIKEN said that he had omitted in the paper to say that he usually directed a suspensory bandage to be worn for the first two weeks, and that he employed for the injection equal parts of glycerine and carbolic acid. It was important that there should always be sufficient fluid to make a perfect solution. He preferred to use ten to twenty minims, and repeat the injection a second, or even a third time, if necessary, rather than to use a large quantity of the acid a single time. In cases where the trouble returned it was always noticeable that the hydrocele was never as large as it had been originally. He had never had any personal experience with the use of iodine, but in all the cases that he had seen treated in this way by others the pain inflicted was much greater than when carbolic acid was employed. In regard to iodine, he was not so much in fear of the sloughing liable to be caused by it as of iodine poisoning. The painlessness of carbolic acid he thought was a great point in its favor. With it, it was never necessary to use cocaine, as the puncture of the small trocar did not cause any more inconvenience than that of the hypodermic needle for the introduction of cocaine.

DR. JOHN MURPHY said that he had known of three or four cases in which carbolic acid used in this way was followed by very bad effects, especially on the kidneys. About a year ago he had seen a case of this kind terminate fatally, and he could not attribute the death to anything but carbolic-poisoning. It was very difficult to eliminate carbolic acid from the system, and it was very apt to have some destructive action and to select the kidneys for this. In his opinion there was nothing better for the treatment of hydrocele by injection than Lugol's solution, and he had never seen any bad effects result from its use.

In reply to questions by the Chair and others, Dr. Murphy stated that he did not know the quantity of carbolic acid that was used in the fatal case he had mentioned, and that death occurred some three weeks after the carbolic injection. Considerable doubt as to the correctness of Dr. Murphy's view that death was due to poisoning by carbolic acid in this case was expressed by a number of those present.

Acute Prostatitis and Prostatic Abscess was the subject of a paper by DR. WILLIAM R. BALLOU. In one thousand cases of urethritis, in various stages, seen in hospital and dispensary practice during the past five years, he said he had observed only three cases of prostatitis resulting in an abscess of the gland, though many that were of a milder grade. In the mildest form of the affection there was little or no swelling of the gland or adjacent parts. In the more severe form the termination might be either in resolution or in prostatic abscess. Many distinct foci of suppuration were sometimes present, and perforation and discharge might be either into the urethra, the rectum, or the perinæum. In case of discharge

into the rectum the infiltration of the surrounding connective tissue was very marked, and was occasionally so extensive as to eventuate in periprostatic abscess.

The most frequent cause was extension of inflammation from the anterior urethra; and among the other causes were cold, traumatism (including the use of instruments), and irritating urethral injections. Having described the symptoms in the milder form, he said that in the severer form the temperature might rise to 104½° F., as in one of the cases detailed later on. Swelling, pain, and throbbing in the rectum were marked, and defecation might be painful or much interfered with. In another of his cases the fæces were compressed to tape-like worms in consequence of the swelling. As the formation of pus came on, all the symptoms became intensified, and even general movements of the body were accompanied by agonizing pain. The temperature rose suddenly, and was usually accompanied by rigors and sweating. More or less complete retention of urine might also be present; but prostatic fistula or extravasation of urine was rare, owing to the fact that the surrounding tissues were very tense from cellular infiltration.

After a few remarks on prognosis, he passed on to the treatment, and said that in the beginning all local urethral medication was to be stopped, and absolute rest in bed enforced whenever this was practicable. A brisk purge was advisable, at first, and later on laxatives were to be given at intervals. Such alkalies as citrate of potassium (10 grains), or liquor potassæ (5 drops), given every three hours with two drachm doses of tincture of hyoscyamus he had found most efficacious in diminishing the pain and frequency of micturition, and he advised that they should be kept up during the whole course of the disease. Local remedies to the perinæum, such as leeches, hot fomentations, fly-blisters, and cantharidal collodion, as well as hot hip-baths, were often of service. Morphia internally, or suppositories of opium and belladonna were sometimes required by the intense pain present. If retention of urine occurred, a soft catheter should be passed after irrigating the urethra with a mild solution of permanganate of potassium. Incidentally Dr. Ballou spoke of the usefulness of this agent in ordinary urethritis. After drawing off the water, the bladder should also be washed out. In some cases of retention a metallic instrument might be required, but it should be used with great caution, as the softened prostate might be easily lacerated and false routes found. Aspiration above the pubes might be sometimes preferable.

If abscess formed, a free incision was to be made; the cut varying in position in different cases according to the tendency to pointing. Even if fluctuation were not distinct, a free and deep perineal or rectal incision should be made in case abscess was suspected. After evacuation, under antiseptic precautions, the abscess should be washed out with bichloride solution (1 to 3,000), and a large drainage-tube inserted. Passage of a sound into the bladder, in the hope of rupturing the abscess into the urethra, had been sometimes recommended. In conclusion, Dr. Ballou gave the notes of three cases of acute prostatic abscess treated by him. In one, the abscess had discharged spontaneously into the rectum before the patient came under observation; in another it was tapped with a trocar through the rectum; and in the third, an incision was made from the rectum (after the introduction of a Sims metal speculum) with a long, narrow blade.

The President said that in the earlier stages he thought it preferable to make the perineal rather than the rectal incision, on account of the danger, with the latter, of the opening remaining permanently, and also of infiltration of the tissues. If the case were seen later, and the abscess was evidently pointing toward the rectum, he would perform rectal incision. He regarded the passage of a metallic instrument into the bladder, with the idea of causing rupture into the urethra, as a dangerous and unjustifiable procedure, and referred to a case where this was done which terminated fatally in consequence.

Dr. Ballou said objection to rectal incision had been often urged, on the ground that it was liable to result in fistula and extravasation; but according to one of the latest and best authorities, Moullin, such a result was not nearly so common as had been heretofore believed.

The Treatment of Gonorrhœa.—In reply to a question by one of the Fellows, Dr. Ballou stated that he was in the habit of using in acute urethritis bi-hourly injections of the strength of one-eighth to one-tenth of a grain of permanganate of potassium to the ounce of distilled water, two syringefuls being employed at each injection. Internally he usually gave some alkali, and if the trouble were deep-seated, hyoscyamus in addition. After from four to eight days sulphate or acetate of zinc (one grain to the ounce) was added to the injection. This treatment had proved very efficient in his hands, and was, he thought, shorter than other methods.

Dr. William McCollom said that it might be objected to such a weak permanganate solution as that used by Dr. Ballou that it was scarcely germicidal. He himself had generally used the permanganate in the strength of one grain, or, at all events, half a grain, to the ounce.

Dr. Ballou thought that the gonococcus at the present time was not regarded as of quite as much importance as formerly. It was only in the first stage of urethritis that he used the permanganate in as weak a solution as one-eighth or one-tenth of a grain to the ounce. Afterward he often increased the strength to one-sixth of a grain, and this was as strong as he ever employed it.

Dr. Pritchard said that he had formerly used permanganate of potassium, but had now given it up. With this injection, as with most others, the discharge disappeared for a time, but it almost always returned.

Afternoon Session.

Opiates in the Treatment of Acute Peritonitis.—The President delivered an address on this subject (see p. 613).

Dr. A. Palmer Dudley had been announced to read a paper on "Cathartics in the Treatment of Acute Peritonitis," which was to follow the President's address, but he failed to appear.

Dr. Alfred L. Carroll said that although, happily, puerperal peritonitis had now become a comparatively rare affection, peritonitis from other causes was still met with sufficiently often to make its treatment of very great practical interest to the profession. It was noticeable that the advocacy of saline cathartics in this connection came, as a rule, from the abdominal surgeons. For instance, Lawson Tait was the chief defender of their use. If, after an operation, peritonitis occurred, he gave turpentine and seidlitz powder, and he considered this mode of treatment better than any other. It seemed to him (Dr. Carroll), however, that there was a great difference between such cases as these and the septic peritonitis, which is hard to deal with in puerperal form. The enormous distention of the abdomen, he thought, indicated an effort to get rid of something; and here good results had been obtained by the moderate use of purgatives. In puerperal peritonitis, which was at first visceral, and afterward extended to the parietes, opium was, in his opinion, strongly indicated. This quieted reflex irritation, and prevented the rubbing upon each other of the inflamed surfaces. In such cases he would give an occasional mild cathartic in connection with the opium.

Dr. J. W. S. Gouley said that he was able to add two cases of recovery from puerperal peritonitis under Dr. Clark's treatment to those which had been given in the paper. They occurred at Bellevue Hospital, in the year 1853, when he was an *interne* there; and the opium was pushed to such an extent in these cases that the respirations were kept down to between six and nine a minute. He then said that he should like to ask the President what the action of such free administration of opium was upon the capillary circulation. This

might, perhaps, explain the success of the opium treatment.

Dr. Thomas H. Manley referred to the discussion on the management of peritonitis by active surgical interference in the surgical section of the American Medical Association at the Newport meeting, and spoke of the extreme opposition with which everything in the way of palliative treatment was met. Peritonitis, he said, was regarded as seldom or never idiopathic, but always due to some special cause. In the medical treatment mercury was strongly advocated by some, particularly among the older practitioners, and opium was also recommended as an important adjuvant. His own experience had led him to regard the opening of the peritoneal cavity as always a serious matter, and not the mere bagatelle that many seemed to consider it. In the next ten years he believed that there would be fewer laparotomies performed for the relief of inflammatory conditions than during the past ten years.

In the cases reported in the paper, opium was given in an entirely empirical way. In every case of such peritonitis we had paresis of the bowels in the beginning of the attack, and, as a rule, they did not act upon the paretic condition of the intestinal walls. It was also an incontestable fact that opium had a distinct and specific action here. In induced peritonitis (the result of surgical operations, septic infection, etc.), we had this paretic state, with shock following. As regards the benefit from opium, all had seen its wonderful power in moderating peritonitis. Still, a drawback to its use was found in the idiosyncrasies of certain patients. He had seen fatal results produced in one case (a female of nineteen) by the administration per rectum of half a grain of the extract of opium.

Dr. William McCollom said that the paper recalled to him very vividly his first impressions in regard to the treatment of peritonitis. He was then at Woodstock, Vermont, where Professor Clark used to lecture at the Medical School, and he saw with his preceptors a good many cases of acute peritonitis which were not of puerperal or septic origin, but belonged to the variety known as idiopathic, and were due to the same influences which produced acute pleurisy, for instance, such as cold, exposure, etc. The physicians used to commence the treatment by bleeding, and then they gave cathartics. As Dr. Manley had stated, there was a paresis of the intestinal walls at the outset of this affection, and they had an idea that peritonitis commenced with some obstruction of the bowels. They began with calomel and jalap, and if this medication failed, resorted to castor-oil. The result was that the patient was agonized with pain, and in a day or two died.

Soon after he himself began to practise he heard of Dr. Clark's opium treatment of peritonitis, and he resolved to try it at the earliest opportunity that presented itself. The first case that he met with was that of a young girl, and he gave her as much as fifty grains in one day, remaining himself in close attendance, and watching the effects of the drug. The good result in this case induced him to pursue the same treatment in others, and he found that he saved almost all of his peritonitis cases. He gave enough opium to reduce the respirations to 8 or 9 per minute, and not only was life saved, but all pain was abolished and vomiting and other disagreeable symptoms checked. He had now carried out this practice for thirty-eight years, and he firmly believed that the opium treatment was the best of all in peritonitis.

Dr. Murray said that while he also considered opium the best remedy in peritonitis, he thought it necessary to take into consideration the special character and antecedent history of each case. For instance, in a patient such as one he now called to mind, who had at one time contracted the morphia habit in consequence of having used the drug freely for the relief of violent hemicrania, he had some doubt whether it would be justifiable to give opium in case he should be attacked with peritonitis.

The President, in closing the discussion, said that he did not wish to be misunderstood as regards the paper he had read. Its object was merely to set forth the history of the introduction of the treatment of peritonitis by opium into Bellevue Hospital, and not to advocate the claims of this plan of treatment in general. He regretted very much that Dr. Dudley had been prevented from being present and reading his paper on the use of cathartics in peritonitis.

Dr. Gouley moved, in view of the great interest attaching to this subject, that the Committee of Arrangements for the next annual meeting of the New York State Medical Association should be requested to make provision at the meeting for a discussion on the "Treatment of Peritonitis," to be opened by the President, Dr. Stephen Smith. This was unanimously carried.

Practical Results of the Operation for Lacerated Cervix Uteri.—Dr. H. W. Mitchell read the paper. The operation of trachelorrhaphy, he said, aimed primarily to restore the contour of the cervix uteri to its normal condition. A higher and vastly more important aim was to insure its future usefulness. A patient who had undergone this operation should be so far restored to her original and normal condition as to enable her to assume future pregnancies and to pass through parturition safely, successfully, and without a repetition of the former lesion. With proper attention to details in performing the operation and in the subsequent care of the patient, healing by primary union was the almost invariable result. In a record of two hundred cases Dr. Mitchell said that only two healed by granulation, the others all healed by primary union.

Of these 200 cases, he had been able to follow up 21 cases where subsequent confinements had taken place; and of these 21 cases 8 had had more than one subsequent confinement. These 21 cases had been attended personally by himself at the time of confinement, and he proceeded to give a *résumé* of them. All were of a severe form of laceration, and in seven there was laceration of the perineum in addition. Re laceration of the cervix during subsequent confinements occurred in only two of the cases, and in both instances it was so very slight as not to impair the usefulness of the cervix or render a second operation necessary. In conclusion, he said that if he might judge by these 21 cases (which were all that he had the opportunity to observe in which he was familiar with all the details), he could say with truth that the operation was a proper and successful one, and accomplished the following results: 1. To diminish the pain and irritation following upon such a distressing lesion. 2. To relieve the sense of bearing down. 3. To cure the exhausting leucorrhœal discharge, to restore the parts to their normal and healthful condition, and, above all, to restore the natural features of the cervix so that future pregnancies and labors may take place in a natural and healthy manner, and without subjecting the patient again to the train of distressing and painful symptoms calling for the operation of trachelorrhaphy.

Objections to Ordinary Axis-traction Instruments; also the Advantages of the Anti-Craniotomy Forceps over Version in Pelvic Deformities.—Dr. T. J. McGillicuddy read a paper on this subject. While the correctness of the principle of axis traction, he said, was conceded by all, there were still many fallacious ideas in connection with its production. Three of the most common of these were: 1, That it is necessary to have rods attached to the blades by a movable joint; 2, that the traction, whether with tapes or rods, must in no way be connected with the handles, which must move freely in all directions; and 3, that rotation and flexion of the head can take place only when Tarnier's instrument, or one similar to it, is used. These ideas, he believed, were detrimental to proper axis-traction, as it was well known that in the skilful use of the forceps we should frequently unlock the blades that the head might undergo rotation and accommodate itself to the pelvic canal; and

it was also a fact that Tarnier's instrument, when clapped to the infant's head, interferes with rotation. Pajot, Herbst Novales, and Albert H. Smith all recognized that axis-traction could be made without any such complicated attachments to the ordinary forceps.

With the instrument (described in the *American Journal of Obstetrics* for December, 1889) which he had devised Dr. McGillicuddy said we could make ideal axis-traction during the entire passage of the fœtal head with remarkable ease and safety. While in relation to Tarnier's instrument a great deal had been said of the indicator, in this forceps the indicator was in the hands of the operator, pointing out the direction of traction as well as the resistance. With it rotation in the posterior positions could be readily made by means of the adjunct handles, if it was thought best to use the forceps for that purpose. It was easy of application, and in its dual character it had all the advantages of axis-traction and the ordinary forceps, and saved the expense of buying two instruments.

Passing on to the second part of the paper, he said that the forceps had an undoubted place as a compressor in certain cases. We were at all times to follow nature's guidance, and it was well known how frequently the infant's head became elongated and otherwise distorted by pressure in its passage through the pelvis, yet without damage to the cranial contents. The whole upper segment of the infantile brain (relatively its non-vital part) would stand considerable compression without danger, while the bi-mastoid or basal region was the vital portion, which nature had so wisely protected by making it uncompressible. The death of the infant was generally caused when the ordinary cephalotribe was used by the close approximation of its tips, thus fracturing this part and causing pressure on the medulla. Therefore, as some compression of the infant's head was compatible with its safety, and as there was no modern instrument, so far as he was aware, that stood between the ordinary forceps and the cephalotribe or cranioclast, he thought there could be no doubt of the utility of the instrument which he now presented, which was intended to be used as a substitute for craniotomy or version in cases of pelvic contraction of moderate degree, or where the common forceps was unsuccessful. It was an efficient tractor, and at the same time it made moderate transient compression of the flexible infantile cranium in its upper portion, while it did not press too strongly on the child's neck with its tips.

Thus it gave the child a chance for its life, while it minimized the risk to the mother. It was safer for the mother than craniotomy, and it was also quicker and better than turning. Transient compression by the forceps was no more dangerous than compression by the contracted pelvis in version, and traction by the forceps was much less dangerous than traction by the lower extremities, which frequently disjointed the neck, compressed the funis, and even decapitated.

Dr. McGillicuddy made a comparison of the advantages claimed for turning by Simpson and those of the anti-craniotomy forceps as follows :

In Favor of Turning.	*In Favor of the Anti-craniotomy Forceps.*
1. The fœtal head has the shape of a cone with the base upward, and when the trunk is delivered the smaller part of this cone may engage in the superior strait.	1. The fœtal head after moulding on appliation of the forceps has the shape of an olive, and either end may engage in the superior strait.
2. The solid hold given by the body of the fœtus when it is delivered first allows us to use force enough to cause compression of the head and to bring, if need be, the elastic and larger part of the cone into the greatest space in the contracted pelvis.	2. The anti-craniotomy forceps gives a much better hold and causes slight compression, if needed.
3. The head drawn through the contracted pelvis generally adapts itself or may be caused to adapt itself in such a manner as to bring its smallest diameter, the bi-temporal, instead of the bi-parietal, into the most contracted diameter of the pelvic strait.	3. The same thing occurs in cephalic presentation.
4. The cranial vault is more readily compressed when the force is applied to the lateral surfaces, as it is in the case of the aftercoming head.	4. With moulding and application of the forceps you compress not only the lateral surfaces but the fronto-occipital surfaces as well.

Simpson's Conclusions in Favor of Version.	*In Favor of the Anti-craniotomy Forceps.*
1. The duration and hence the danger of labor is diminished by version. Therefore version should be resorted to as soon as dilatation is complete, without waiting for engagement of the head.	1. It is not diminished as much as when this forceps is used. It can be applied, if necessary, before engagement of the head, as well as after.
2. Compression of the fœtal head is compatible with life.	2. If this is true, why not use the forceps?
3. The traction to which the fœtal neck is subjected is not incompatible with fœtal life.	3. The traction to which the fœtal neck is subjected often kills and sometimes decapitates it.
4. The risk of death from compression of the cord is not great enough to cause rejection of version.	4. There is no risk of death from compression of the cord in the use of the forceps.
5. Energetic but rapid compression is less dangerous to mother and to infant than less, but prolonged, compression.	5. It is the same with the forceps.
6. Local lesions of the vagina, fistulæ, etc., are more likely to result from forceps than from version.	6. Local lesions generally result from impaction with delay (version), and least of all from improper use of the forceps.
7. The risk of rupture of the uterus during version has been exaggerated.	7. There is much more risk of rupture with version than with the forceps.

This instrument, Dr. McGillicuddy said, was not a cephalotribe or cranioclast, but a conservative, life-saving forceps, to be used in cases of considerable pelvic deformity. No woman should be delivered except by axis-traction and with its axis-traction handles one could determine the exact amount of resistance and the proper amount of force to use, and readily use it. With this forceps we pulled directly in the axis of the brim. The conclusion at which he had aimed was, that when this instrument cannot deliver a living child there is no other operative alternative but Cæsarean section, as craniotomy in the living fœtus is not justifiable.

A Case of Obstinate Neuralgia Following Fracture Relieved by Operation, was the subject of a paper by Dr. Reginald H. Sayre. The patient was a young man, aged nineteen. When five years old he fell and fractured the right femur in its upper third. At the age of nine he refractured the right femur at a point a little higher than the former injury, and also dislocated the hip. When thirteen he fractured the right femur for the third time, and this time the bones (in which there had previously been straight union), united at an angle, causing a very morbid curving of the thigh and between two and three inches of shortening. After the last accident he had constant pain in the limb, which was greatly aggravated by motion or by handling of the parts and most intense at the point of greatest deformity, which was just in the line of the external cutaneous nerve. At last the pain increased so much that he had to resort to the continual use of morphia. The wearing of a high shoe and the use of blisters and strong galvanism proved entirely ineffectual, and the suffering grew steadily worse.

Several surgeons concurred in the opinion that there was a large exostosis pressing on the nerve, and on June 10, 1888, Dr. Sayre operated under antiseptic precautions. He found to his surprise that part of the vastus externus muscle was so twisted on itself as to turn at right angles to the long axis of the femur, but that there was no exostosis present, with the exception of a most minute point which could scarcely be considered abnormal, but which he nevertheless removed. He then passed his finger completely around the femur, stripping up the

muscles for an extent of two or more inches, but failed to find any sharp projection or anything else to account for the pain. Contrary to his expectations under these circumstances, he found that the patient was completely cured by the operation of the neuralgia pains, which he had then suffered for six years and which had resisted all kinds of treatment. On January 29, 1891, Dr. Sayre received a letter from the patient, in which he stated that he was still entirely free from pain.

One of the points of interest in this case was the simulation of an exostosis by what was presumably a tense fibre of the fascia lata which had become so much bound down as to press on the muscles of the thigh, and which by girdling them apparently caused the pain. He said he did not clearly understand how to account for the obliteration of pain. He did not consider the point of bone he removed large enough to have caused the trouble, and he did not think that when he passed his finger around the femur he tore loose any nerve-fibres from the cavity. The explanation, he suspected, was to be found in the relief of tension given by splitting up the fascia lata, which certainly bound the muscles very tightly. The length of time that had elapsed since the operation, nearly three years, he thought was sufficient guarantee that the cure would be permanent, especially as the patient had been addicted to the opium habit; and such *habitués* were proverbially hard to cure of neuralgias, since the latter offered so good an excuse for resuming their old habits.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Stated Meeting, May 25, 1891.

ORLANDO B. DOUGLAS, M.D., PRESIDENT, IN THE CHAIR.

A Thrifty Society.—THE PRESIDENT said that at the last meeting the number of new members admitted was seventy-five; at this meeting it was thirty. The total number of members who now paid their dues regularly was over eleven hundred. We could take just pride in being the oldest and largest medical society in the United States.

Epileptic Insanity: Its Etiology, Course, and Treatment, Based on the Observation of One Hundred Cases.—DR. E. D. FISHER read the paper. He accepted the definition of epileptic insanity given by W. Bevan Lewis, as that form of mental derangement, the antecedent history, oncome, and further development of which showed an intimate connection with the epileptic neurosis. The distinction between epilepsy and epileptic insanity was often difficult, if not impossible, to make. We might consider epileptic insanity as a mental condition to which all epileptics were liable, and while mental impairment was often not recognizable in many cases during the intervals between the attacks, yet he was inclined to think from experience that it was more commonly present than had generally been stated. The great majority showed evidence of gradual deterioration.

The most important element in epilepsy was the disturbance of the consciousness, especially when sudden in its onset. This stood out as the real diagnostic symptom of the disease, and it indicated essentially an affection of the cortex of the brain, where, indeed, future study must be directed if we were to find its pathological basis. The convulsions were of secondary importance, since they might be due to various irritative lesions of the brain, causing the same character and distribution of convulsions as seen in epilepsy, and yet having none or little of the characteristic mental disturbance. In fact, in epilepsy of the so-called *petit mal* type, without convulsions, mental derangement was more common, and the prognosis was worse than in the *grand mal* type.

There was some similarity in all cases of insanity, especially in the change of the ego, or the relation of self to the external world. Then came a change in the emotions, then in the thought, as represented by illusions and delusions, and sooner or later dementia. It was desirable, however, in each case of epileptic insanity to study its own characteristic symptoms in addition to those which it had in common with all others.

Of his 100 cases, 60 were in women, 40 in men. There was a history of phthisis in the parents in 7 cases; in the male cases excessive use of liquor in 9; none in the female; shock in 6 women; insolation in 3 men; trauma in 6; a history of epilepsy from childhood in 12 women, 19 men, and an indefinite account of a fall in some cases.

With regard to the exciting cause, in sixteen women the menstrual period was the only time of the attack. A premonitory stage, shown by restlessness and irritability, was more common in women. A definite aura was rare. The character of the seizure was the same as in the general neurosis, except that it was rarely unilateral. Out of this hundred cases, and many others, the author had found few pointing to a focal lesion which would justify an operation.

The mental condition following and preceding the seizure, and the intermediate state, was what marked the disease. Masked epilepsy, in which mental derangement took the place of the epileptic seizure, was not present in any of the cases, although attacks of *petit mal* with excitement or depression were not uncommon. A tendency to violence following the attacks was present in 14 women, in 12 men; homicidal mania in 9 women, apparently in none of the men; melancholia with suicidal attempt in 13 women, comparatively few men. Delusions of persecution were not uncommon, especially in women. Hallucinations were rare. Fully fifty per cent. were demented.

Perhaps no class of patients presented such sudden and violent outbreaks as the epileptic insane. This showed the necessity for treatment in an institution. The disease showed a chronic course. The longest duration in his cases was forty-four years, the majority extending over ten or twenty years—most of them having been epileptic a number of years before coming to the hospital. They were the most troublesome of all inmates of asylums. They should be in an institution by themselves.

Various remedies had been used. His personal experience had convinced him that bromides were well borne when given sufficiently diluted, and that the tendency was to bear them better as the length of time of administration extended; in comparatively few cases did evil results follow their use.

Are Bromides Harmless?—DR. A. D. ROCKWELL said that in studying the mental phenomena connected with epilepsy, it was necessary to distinguish between those produced by the disease and those produced by medicines. He thought it must have been observed by all, that, however careful we may have been in the administration of bromides, yet we did meet with emotional impairment amounting sometimes to suicidal or homicidal tendency. He had for five or six years given in connection with the bromides a little chloral, say ten or fifteen grains of the former and two or three grains of chloral, and had found that thus administered more was accomplished than when the bromides were given alone, while the tendency to mental symptoms was diminished. He also thought the galvanic current had proven useful, not alone, but in connection with bromides.

DR. CHARLES HENRY BROWN thought there was one feature of epileptic insanity which stamped it at once as epileptic, namely, the suddenness of the onset and entire charge of personality, the entire forgetfulness of what had occurred through the seizure. In most other cases of insanity the patient remembered what occurred during his maniacal seizure. In the stage of dementia the differential point of loss of personality in epileptic insanity was less easily determined. As a rule, the insanity,

as soon as it made its appearance, was chronic, which pointed to the necessity for a well-regulated asylum, and he thought there was good prospect of the legislature of this State passing a bill providing for one. As to medicines, bromides held the first place; chloral and also counter-irritation were good emergency remedies.

Dr. Ralph L. Parsons said it sometimes became a medico-legal question whether a homicide had epileptic insanity, especially when there was no distinct history of well-marked epileptic seizures. A point in favor of such a diagnosis was want of real motive in the homicidal attack. The tendency of epilepsy was toward feebleness of memory and intellect, and toward degradation. He had never seen a favorable case which had already become insane. As to treatment, he had in a few cases used a heroic remedy with success, namely, strychnia, to the extent of producing its physiological effect, long continued.

Dr. John Messenger had found cimicifuga the most reliable remedy.

Applies a Ligature.—Dr J. Leonard Corning thought the best thing to do with patients during the paroxysm was to put them into a padded cell. Like pneumonia, the attack had a course to run before it could be stopped. To avoid the acne and unfavorable results of large doses of bromides, he had found ligatures placed around the extremities most useful. All medicines which had an affinity for the brain and spinal cord showed much greater potency when aided by this mechanical device. The method was much more practical than pressure on the carotids, which he had once practised. The ligature or ligatures need not be worn all the time, although they might be if thought desirable. He had also used chloral and other remedies.

Let Alone Plan.—Dr. W. M. Leszynsky had had considerable experience with insane epileptics in asylums, and had found they were a hopeless set of cases. In the status epilepticus they died, which was the best thing that could happen to them. Nothing would cure them. Bromides and other remedies might control the attacks, but they had to be given in such doses as not only disturbed the digestion but also kept the patient in a condition of mental enfeeblement. It seemed to him the best thing to do with chronic epileptics was to do very little except incarcerate them.

Dr. Fisher closed the discussion, and said that Dr. Leszynsky's plan was not very encouraging to the patient nor satisfactory to the physician.

Improvements and Adaptation of the Edison Current to General Office Use.—Dr. H. G. Piffard read a paper and made an elaborate demonstration of this subject, which at the conclusion elicited a vote of thanks from the Society. An experience of more than a year with the street current had satisfied him of its adaptability to office use. Since he had read a paper on the subject, over a year ago, he had made certain improvements in the method of applying the street current (the Edison only), so that now one could obtain the continuous galvanic current, the slowly or rapidly fluctuating current, the primary and secondary faradic currents, could charge a storage battery, or run saws, knives, and cautery by motor, and generate ozone. He had made provision for six independent circuits, in some instances two of which could be in simultaneous operation. The mechanism, independent of the motor, made the current perfectly safe, since the passage of over five hundred milliampères would destroy the carbon filament and break the circuit. The author not only described and demonstrated the outfit presented, but also explained certain terms used by electricians, as volt, ohm, milliampère, how to convert algebraically electrical energy represented by these terms into Watts's horse power, etc. He did not neglect to criticise some articles in the medical journals which showed some degree of ignorance of the principles of electricity. He made use of a modified Bailey rheostat, a Weston meter (said the McIntosh was also a good one), of a one-eighth horse-power C. & C. electro-motor. The Ford Instrument Company had agreed to make the whole out fit without modifying it, which he thought would insure its reliability.

The usual collation was served.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON OBSTETRICS AND GYNECOLOGY.

Stated Meeting, April 23, 1891.

Egbert H. Grandin, M.D., Chairman.

The Secretaryship.—Dr. I. H. Hance sent a letter offering his resignation as secretary, as he was to be absent from the city for a year. The resignation was accepted with regret, and Dr. J. C. Edgar was elected to act for the remainder of the term.

Auvard's Incubator.—Dr. J. C. Edgar exhibited and described Auvard's couvert, made in Paris, there being, as far as he knew, only two of the kind in the city. It was not a new device, but for some reason had not been introduced into this country. Its advantages over the Tarnier and others were simplicity, ease of management, and cheapness. It cost in Paris about sixteen dollars, here, with duties added, about twenty-seven dollars. It consisted of a box with an upper and lower compartment, the babe lying in the upper, the lower containing bottles of hot water which were renewed from time to time, the temperature of the air being indicated by a thermometer visible from the glass top. Air entered a window below, passed over the bottles, over the thermometer, then reached the living compartment, and passed out at an opening above. It received moisture from dampened sponges.

The Chairman believed this incubator had the reputation, in Paris, of saving twenty-five per cent. more infants than any other, and he hoped some instrument-maker in this country would devise an equally good, simple, and cheap one, since the one exhibited was patented.

Nephrectomy.—Dr. Malcolm McLean related a case in which he had recently performed nephrectomy, the kidney tissue having, it seemed, entirely disappeared, to give place to a cystic tumor weighing twenty-five pounds. Having had a fatal result in one similar case, he would not have undertaken laparotomy if it had been possible to exclude ovarian cyst. He was unable to enucleate the entire tumor, but took away the greater portion, and closed the abdomen. The patient died. He had found the intestines in front of the tumor, a fact which lent support to the opinion that the tumor was of the kidney. The case was of interest also in the rapid growth of the tumor, and absence of any urinary symptoms. Having determined the nature of the tumor, it would have been better, he said, to tap or remove posteriorly.

Dr. Goffe said he was present at an operation by Dr. Thomas, when a tumor was removed weighing about twenty-five pounds, and Dr. Thomas remarked that it was not an ovarian cyst, as had been supposed, but a tumor of the kidney, basing the opinion on the fact that he found the intestines in front of it.

Dr. McLean added, that anterior exploratory puncture in his case would have been dangerous, since the intestine lay in front of the tumor. Besides, if fluid had been withdrawn, he thought nothing but a careful chemical analysis would have shown its nature; the kidney-tissue having been completely destroyed, he did not think there was any urine.

Delivery at Six Months and a Half; Child Viable.—Dr. H. L. Collyer reported the case. Mrs. G—— consulted him April 3, 1890, complaining of chronic cellulitis, which he treated by tincture of iodine, glycerine tampons, etc. She had been married eleven years, had had four children and one miscarriage. Menstruation was pretty regular, somewhat painful. July 5th, she menstruated as usual. August 6th, there was a scanty hemor-

rhage for three days. The third week in August, Dr. Collyer detected changes taking place in the uterus, characteristic of pregnancy in the early weeks, and pronounced her gravid. The patient then told him that conception must have occurred July 18th, for she had not cohabited prior to that time for three months. She expressed fear that she would miscarry. At intervals afterward she had bearing-down pains and spots of blood. Dr. Collyer noticed an increase in size of the right cornua of the uterus, August 23d; the uterus was elastic on pressure, as if distended by a small rubber ball at the fundus and right cornua. He had noticed the same feeling in many other cases at the fifth week. Toward the seventh week the fundus was enlarged uniformly; at the eighth week there was some softening of the cervix. He thought on several occasions that the woman would miscarry. She went on, however, until January 24, 1891, when there was profuse hemorrhage, but miscarriage was obviated until February 3d, when he delivered her of a small male child. It cried loudly. He wrapped it up, waited five minutes before cutting the cord, and then took away the placenta. The child weighed two pounds and four ounces, the toe-nails and finger-nails had not yet formed, the bones of the skull were soft, the frontal suture was still open, the testes had not descended. He wrapped it in wool and put it into a basket near the stove. It was fed on milk and water from a spoon every two hours, was oiled twice daily, and after repeated attempts was taught to nurse. It was under Dr. Collyer's observation until nine months of age, when the mother took it with her to friends in the West. The facts in the case pointed plainly to gestation of not more than six months and a half, or twenty-six weeks. He remarked that in general practice infants born even at the seventh month seldom lived, but his experience with this case would lead him to think that with an incubator and attention to be had in a hospital, it should not be very difficult to rear them when born at six months and a half.

Dr. Malcolm McLean said he had raised three or four infants born at the seventh month, in cotton wool, without a regular incubator.

The Chairman said it would have been interesting to have the evidence of the membrana pupillaris as to the early birth of the child, but Dr. Collyer replied that he had not taken particular notice of the eyes further than that they looked glairy, and not as the eyes of a child at term.

Dr. Edgar said a good deal of reliance had been placed on the length of the child in judging of the stage of gestation, the weight varied more than the length. Dr. Collyer said he had not measured this one, but thought it was twelve or fourteen inches long.

Unknown Cause of Death after a Minor Operation.—Dr. Locke reported a case which occurred a year ago in hospital practice, that of a healthy-looking Danish girl, who for four months had noticed a swelling on the vulva near the urethral orifice, and afterward two others. They caused no pain, but some hemorrhage took place between menstrual periods which did not seem to come from the vagina. The tumors reminded Dr. Locke of pictures of melano-sarcoma. They were about the size of a hazel-nut. He advised removal. The patient took ether easily, was under its influence about fifteen minutes, and then, after they had rolled one of the small tumors out of its capsule, she was noticed to be in apparent collapse. The operation was discontinued, she was restored from immediate danger, but during the afternoon the respiration became sighing, the patient became delirious, there was cold perspiration, and death took place next morning, with a temperature of 107° F. The condition of the urine had been normal, the heart normal. Some urine withdrawn after the operation showed a little albumin and few casts. An autopsy was not obtained. Ether was the anæsthetic. They were puzzled to know the cause of death. Dr. Prudden had examined the small tumors, and pronounced them simple blood-clots.

Dr. Collyer referred to a case in which a simple operation was performed for synovitis, ether being given, kidney trouble excluded; yet the temperature soon ran up to 104° F., and the patient died under circumstances similar to Dr. Locke's. He supposed there was either acute pulmonary œdema or pneumonia resulting from ether inhalation. He had given up ether for chloroform, fearing kidney and respiratory complications from ether inhalation.

The Chairman and other speakers suggested a hemorrhagic tendency in Dr. Locke's case, and possible internal hemorrhage or pulmonary embolus.

Atresia of the Vagina Following a Normal Labor.—Dr. Malcolm McLean related a case of almost complete occlusion of the vagina, following shortly upon a multipara's last labor. Up to the expulsion of the child the labor had been normal, but for some reason the placenta did not come away at once, and the attending physician stayed with the patient all night, trying to express the placenta and control hemorrhage. At last the placenta was cast off and there was no further hemorrhage. A few weeks later she found the vagina much shortened, was operated upon by two physicians who lengthened it about two inches, but did not succeed in reaching the uterus. She consulted Dr. McLean on account of a vesico-vaginal fistula. The uterus was still beyond reach, but as the patient was near the menopause, and the vagina had fair length, she wished to be treated only for the fistula. He was unable to understand the cause of the atresia.

Dr. R. A. Murray said he had known undiluted persulphate of iron to be used to stop hemorrhage, and cause cicatrices in the vagina. In the present case it was not unlikely this stypic had been employed in its full strength, and caused the vaginal surfaces to adhere together and form atresia.

The Association of Rectal and Pelvic Diseases in the Female.—Dr. Robert A. Murray read the paper, which, he said, was intended to be only suggestive, and to call forth a discussion. When he considered the intimate anatomical connection between the rectum and the genital organs, it would not seem strange that disease in one should cause disease or symptoms in the other.

Constipation, while not exactly a disease, was present in a large proportion of the cases which came under the care of the gynecologist, and was the cause of much trouble. The first symptoms present in most cases was pain in the left side over the region of the ovary, then flatulence and constipation. By recalling the anatomical relations one could readily understand why the patient should have pain in this region. The rectum lay on that side, the ovary and tube were almost in contact with it, constipation gave rise to congestion of the pampiniform plexus and vessels in the neighborhood. To relieve engorgement of these veins it was necessary to empty the rectum. The only apparent solution of posterior displacement in many virgins was pressure during defecation when there existed chronic constipation. Relieve the pressure by correcting the constipation, and the patient ceased to complain. In long-continued obstruction to the pelvic circulation caused by chronic constipation and uterine displacement we found hæmorrhoids and an inflamed condition of the lower gut. Cathartics in these cases were likely to cause greater suffering by renewing inflammatory symptoms; relief would not be experienced until the communication between the genital and portal circulations had been made free, 1, by replacing the uterus; 2, by use of rectal enemata.

In virgins chronic constipation also often caused a dragging and falling sensation in the pelvis, by giving rise to congestion and varicosity of the vaginal and uterine veins, and led in time by such congestion, and by the pressure forward of the distended gut against the vagina, to retroversion and prolapsus. In this condition correction of the retroversion did not give relief, since the starting cause was not retroversion, but rectocele. Cure the

chronic constipation, and the other symptoms would disappear. He had seen several cases in which this rectal distention had given rise to slight fissures at the entrance to the vagina, the passage of hard fæces distending the rectum and sphincter, also stretching the vaginal fissures and causing much pain. A cure of the fissures could be effected only by overcoming the constipation.

It was a common idea among women that if the bowels were free during menstruation they suffered less, and in general he believed this was true; but if a perimetritis were associated with disease of the tubes and ovaries, the patients might suffer more, the diarrhœa exciting an acute attack.

Many patients complained of a discharge of glairy mucus from the bowel, and burning sensation after defecation, perhaps accompanied by a bloody discharge, especially during the menstrual period. Relief of this catarrhal proctitis often caused relief of pelvic pains and enabled the patient to tolerate uterine disease, if it did not cure her.

Hæmorrhoids and fissure of the anus were frequently associated with uterine disease, especially where there was pressure by the displaced uterus or a tumor. When caused by pressure of the uterus, replace the organ. The patient should rest in bed, receive a vaginal hot-water douche, the hæmorrhoids should be replaced after defecation. Dyspareunia was often caused by fissure of the rectum, and disappeared with cure of the rectal trouble. Similar troubles might arise from an ischio-rectal abscess pointing in the perineum. The author had had two cases of ulcer of the rectum which he was unable to cure until he had made an incision, and then treated the case as he would one of complete laceration of the perineum.

The author thought it would be evident to all, even from the brief manner in which he had treated of the subject, that to cure uterine trouble we must also give attention to the rectum and pelvic circulation.

Dr. H. J. Boldt thought that of all subjects in gynecology the one forming the title of the paper had been most neglected. How frequently was the rectal disease overlooked! The association of rectal and uterine trouble had been found so common in his practice that he had found it advisable to examine the rectum in about four of every five cases which came under his observation. Very frequently some of the symptoms would thus be cleared up. For instance, in posterior uterine displacement, especially with fixation, one of the most prominent symptoms was aching pain along the spinal column, extending sometimes as high as the cervical region. In these cases he had found ulcer of the anterior rectal wall, about half an inch from the sphincter, almost a uniform complication. The ulcers varied in size from that of a split pea to that of a ten, or even a twenty-five cent piece. They were difficult to cure. The best treatment had been by superficial curettement after application of a strong solution of cocaine. Then use an enema of flaxseed-tea after each act of defecation, and introduce a suppository of iodoform and sulphate of zinc. Small external hæmorrhoids and fissures were common.

Dr. Florian Krug agreed with former speakers that rectal diseases associated with the uterine were common, and often were overlooked. He made it a custom to examine the rectum when symptoms pointed to uterine disease, and often found lesions which had been overlooked by other gynecologists. He would not dwell upon the commonest of all complications, constipation. Chronic enteritis, which he indefinitely located in the lower part of the bowel, frequently gave rise to symptoms which were credited to the uterine appendages. He referred to a case in which the patient had been treated by various measures —electricity, etc.—directed against supposed disease of the tubes and ovaries, and finally was told by her physician that it would be necessary to remove the appendages. When Dr. Krug saw her he could find no evidence of disease of the appendages, but found, on examining the stools, a cast of the mucous membrane of a portion of the bowel, and treating her for chronic enteritis she got well.

Dr. A. H. Goelet said that while women generally gave a story of constipation, yet some had masses of fæces in the rectum while having a passage every day. One patient consulted him for uterine trouble, in whom he could feel a tumor as large as his fist posterior to the uterus, yet so high that it could not be felt through the rectum below, the lower part of the bowel also being full. The peculiar position and mobility of the tumor led him to think it was in the rectum, yet the patient said she had had daily passages for months. He sent her home, prescribing a powerful cathartic, which caused copious watery discharges, yet on her return the same tumor could be felt in the pelvis. He managed to dislodge it, found it a fecal mass, as large as a baseball, hard enough to crack with a hammer, dry and light enough to float on water. Its removal was followed by disappearance of the "uterine" trouble.

Regarding the treatment of proctitis, he had found the most efficient means consist in introduction of the bivalve speculum after using cocaine, and dusting the mucous surface over thoroughly with powdered boracic acid.

Dr. Collyer had usually found that women had masses of fæces behind the uterus, but supposed that men, if they should be as frequently examined, would be found to have this portion of the rectum also distended. It seemed to be the receptacle for waste. He agreed with other speakers, that the rectum received too little attention compared with the uterus and its appendages. Hæmorrhoids or polypoid growths were frequently present. Especial attention should be given the lower portion of the rectum.

Dr. J. R. Goffe emphasized the remarks of previous speakers, and said that a chronic constipation often arose because women put off going to stool on account of a sensitive ovary resting on the rectum, the pain being increased by fecal movements.

After some further discussion the Section adjourned.

Correspondence.

SOME OF THE DANGERS TO WHICH EPILEPTICS ARE EXPOSED.

To the Editor of the Medical Record.

Sir: I earnestly desire to bring up before the minds of our profession the many and great risks to which patients suffering from epilepsy are exposed, especially when in public places and thoroughfares.

Going through a street in the city at a recent date I perceived a gentleman fall in a fit, and it was immediately made clear to me that the case was one of epilepsy, and from the gravity of which evidently *le grand mal.* The patient recovered in the usual manner. A fact was forcibly presented to my mind in this case, viz., that a patient who was liable to a similar attack anywhere should not be allowed to go about unattended.

Three cases of a similar description having been brought to my notice, I presume to offer the following suggestions: Firstly, that medical men insist that patients affected with this malady shall not go about in public places unless attended by someone, and to see that they are obeyed; secondly, that members of our police be instructed not to run the risk of causing asphyxiation by forcing small pieces of ice into the patient's mouth on such an occasion.

As we are certain in most cases of epilepsy of the grave type that the patient will have a paroxysm sometime, ponder if it is not something akin to neglect and carelessness if we allow such a patient to run the risk of being frightened, maimed, or even possibly killed.

Respectfully,

R. Harcourt Anderson.

221 West Twenty-first Street, June 2, 1891.

THE DIAGNOSTIC VALUE OF VOCAL FREMITUS IN PNEUMONIA.

To the Editor of the Medical Record.

Sir: Having read the article in your issue of June 6th, by Dr. J. P. Rand, of Worcester, Mass., on "The Diagnostic Value of Vocal Fremitus in Pneumonia," kindly allow me to reply.

There may be cases of pneumonia in which the bronchi, large and small, are completely filled with inflammatory products, either pneumonic in character or due to accompanying bronchitis, etc. In such cases vocal fremitus may be absent. However, I assume that these cases are the exception.

The case to which the writer of the article in question refers might have been of that nature; or there were, possibly, conditions present and unrecognized which would account for the absence of vocal fremitus or the presence of a dull percussion note, or both. A circumscribed area of dry pleurisy, with fibrinous exudation, might have been sufficient to have produced dulness on percussion. A thickening of the pleura from previous inflammation, together with a central area of lung consolidation would give the same physical signs that were found in the case cited.

That the case referred to is exceptional in this particular is evident, but it is not evident that it has any bearing on vocal fremitus as a diagnostic sign in pneumonia, for, as the writer truly says, "the art of physical examination depends upon fixed laws."

The writer's analogies and comparisons are incompatible with a knowledge of the anatomy and histology of the lung and the pathology of pneumonia and pleurisy with effusion.

Lung consolidation does not mean, nor should it necessarily imply, that the bronchi are included.

Referring to Loomis for pathological information, as the writer of the article has done for physical signs, the following is found: "Not infrequently the material in the infundibula and air-cells extends into the minute bronchi, but these tubes are rarely completely filled with the pneumonic exudation."

Accordingly air may be found in the larger and smaller bronchi in the stage of consolidation in pneumonia; consequently the vibrations of the vocal cords may be transmitted through these bronchi to the point where consolidation commences, which is in the infundibula and alveoli, thence through the consolidated lung tissue to the pleura and chest-wall. Excluding cases previously mentioned, it is difficult to perceive how vocal fremitus can be absent in uncomplicated lobar pneumonia.

In pleurisy with effusion, when the diagnosis is well established, the lung on the corresponding side is not only displaced upward and backward but is also compressed, so much so as to occlude entirely, in some cases, many of the bronchi, large and small. Under such circumstances it is difficult to understand how vocal fremitus can possibly be present.

Therefore, to compare pneumonia with pleurisy with effusion, so far as vocal fremitus is concerned, is but to ignore the pathological conditions peculiar to each disease.

The specific gravity of a pneumonic lung, as compared with water or a serous exudate in pleurisy, has no bearing on the transmission of vibrations of the vocal cords in either of the conditions just named.

The analogy of the sponge and violin is objectionable, for, unless the violin-strings could be made to vibrate within a hollow tube, which was connected with numerous smaller tubes, which in turn were inserted into the meshes of the sponge, which latter should completely fill the cavity, the arrangement would be but a poor representation of the structures concerned in phonation. Air confined within a certain small space is a much better transmitter of vibrations than is air not so confined.

The writer states that he "does not assent to the generally accepted proposition that a solidified lung is a better communicator of vocal vibrations than is the healthy one." He says, "it is against reason, against natural philosophy, and, according to my limited observation, against fact."

So far as natural philosophy is concerned he is referred to his own quotation from the "Encyclopædia Britannica," viz.: "When a wave of sound travelling through one medium meets a second medium of different kind, the vibrations of its particles are communicated to the particles of the new, so that a wave is excited in the latter, and is propagated through it with a velocity dependent upon the density and elasticity of the second medium."

"It appears to be well established that while vibrations of a solid are, in general, most readily communicated to other solids in contact with it, they are not so to liquids, and still less so to air and other aëriform fluids."

The preceding paragraph has a direct bearing upon the conditions prevailing in lung consolidation, as compared with the lung in a healthy state.

In a state of health the vibrations of the voice are transmitted through the air contained in the bronchi, through the reserve and residual air contained within the lungs, to the parenchyma, pleura, and chest wall.

In pneumonia the lung is swollen and lies in closer contact with the chest-wall than it does in health; the pleura may be thickened and covered with fibrous exudation; the residual air contained within the alveoli is displaced by the products of inflammation which constitute the consolidation.

Every condition prevailing in pneumonia favors the transmission of the vibratory thrill to the chest-wall in a greater degree than do the conditions in health.

Combining reason, natural philosophy, and a fair knowledge of pathology with even a limited amount of observation, it would seem that vocal fremitus should remain, as it is, a valuable physical sign in pneumonia and some other forms of lung consolidation.

C. N. Haskell.

No. 6 Courtlandt Place, Bridgeport, Conn.

HEALTH OFFICER IN THE CABINET.

To the Editor of the Medical Record.

Sir: The judicious editorial on this subject in the last Medical Record deserves careful consideration.

A Bureau might be created under the Treasury or Interior Department, to be known as the National Medical Council, or National Board of Health, at the head of which should be placed by the President an official to be known as the Medical Director-General of the United States. This officer should be assisted by a Medical Council consisting of the President of the American Medical Association (or other representative of the profession) and the chiefs of Bureau or Surgeon-Generals of the Army and Navy. The present Marine Hospital Service might be merged in the latter, and the details in the Government services could be made by their respective chiefs on application of the Secretaries of War or Navy to the Secretary of the Treasury or Interior—under whichever department the Health Bureau was placed. The national interests of the medical profession in matters relating to the formation of State Board of Health, epidemics, etc., could be managed by the civil representative of the Council, and this scheme would *centralize* medical work, and give the necessary force and authority for its execution.

Hermes.

Medical Instruction in the University of Madrid.—It is stated that twelve of the twenty-four chairs in the medical faculty of the University of Madrid are vacant, and of the remainder four are filled by men who are unable, by reason of advanced age or infirmity, to discharge their duties satisfactorily.

New Instruments.

A MODIFICATION OF A NASAL SNARE.

By JONATHAN WRIGHT, M.D.,
NEW YORK.

Since the publication, three years ago, of a design of a nasal snare by the writer, the instrument has met with a fair amount of favor at the hands of those interested in nasal surgery. Not being a perfect instrument it is necessarily capable of improvement. Among the objections urged against it the one of most force is that, with it, it is impossible to work very slowly, which is desirable where vascular growths are to be removed. As for myself, I prefer for this purpose the cautery snare, as it has been my experience, both with my own and other kinds of snares, that you occasionally get an uncomfortable amount of hemorrhage however slowly you tighten the loops, or whatever instrument you use. Those however who prefer the cold snare, I think, will find the following device a useful change from the old pattern.

The cannula, instead of screwing into the cogged bar sheath, fits in as a plug. It is provided with a small thumbscrew to bear on the stylet when tightened. The latter runs all the way through the cogged bar, and by means of a screw at the handle end of the instrument, is held firmly in place. When the wire loop has been sufficiently tightened around the vascular growth, and it is desirous to allow the patient to wait a few minutes, the thumbscrew is used to fix the stylet in the cannula. The screw at the handle end of the cogged bar releases the end of the stylet by a single turn, and the cannula and stylet can then be quickly separated from the rest of the instrument and allowed to hang from the nose as long as desired. The process is reversed when it is desired to proceed with the operation. This may be repeated as many times as desired, and at any stage of the operation. The time consumed in detaching and attaching the stylet is very much less than that taken to describe the process.

The accompanying illustration only represents the modified part of the instrument, *i.e.*, the cannula, stilet, and cogged bar. Reference to the Medical Record of March 17, 1888, will explain the principle of the whole snare to those not familiar with it. It is a simple matter to change the old pattern to the new. Hazard, Hazard & Co. have executed the design, and of them it may be procured.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from June 7, 1891, to June 13, 1891.

Horton, Samuel M., Major and Surgeon. By direction of the Secretary of War, the leave of absence on surgeon's certificate of disability granted in S. O. 49, March 4, 1891, from this office, is extended three months on surgeon's certificate of disability. S. O. 129, par. 6, A. G. O., Washington, D. C., June 4, 1891.

Byrne, Charles B., Major and Surgeon. With the approval of the Acting Secretary of War, granted leave of absence for fifteen days, to take effect on being relieved from duty at Fort McHenry, Md. S. O. 130, par. 14, A. G. O., Washington, D. C., June 8, 1891.

Harvey, Philip F., Major and Surgeon. The leave of absence for seven days, by Orders No. 96, c. s., Fort Keogh, Mont., is extended fourteen days. S. O. 98, par. 2, Department of Dakota, June 5, 1891.

Walker, Freeman V., First Lieutenant and Assistant Surgeon. The leave of absence granted by Orders No. 100 c. s., Fort D. A. Russell, Wyo., is extended twenty-three days. S. O. 68, par. 6, Department of the Platte, June 8, 1891.

Alexander, Charles T., Lieutenant-Colonel and Surgeon, Attending Surgeon in New York City. By direction of the Acting Secretary of War, is, in addition to his other duties, assigned to duty as examiner of recruits in that city. S. O. 132, par. 21, A. G. O., Washington, D. C., June 10, 1891.

Official List of Changes in the Medical Corps of the United States Navy for the week ending June 13, 1891.

Alfred, A. R., Assistant Surgeon. Detached from Naval Hospital, Norfolk, and ordered to the Fern.

Stoughton, James, Assistant Surgeon. Ordered to duty at Naval Hospital, Norfolk, Va.

Young, L. L. S., Assistant Surgeon. Ordered to duty at Naval Station, Port Royal, S. C.

Hochling, A. A., Medical Inspector. Ordered as member of Naval Medical Examining Board.

Street, T. H., Surgeon. Ordered to duty on the Bennington.

Wailes, P. S., Medical Director. Ordered as delegate to represent Medical Corps of the Navy to the International Congress of Hygiene and Demography at London, England.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending June 13, 1891.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	15	6
Scarlet fever	179	34
Cerebro-spinal meningitis	1	2
Measles	343	24
Diphtheria	80	27
Small-pox	1	0
Varicella	1	0
Pertussis	3	6
Erysipelas	2	0
Mumps	0	0
Rötheln	0	0

Drug-Stores in Russia exist to the number of 2,688, and in one year did business to the value of over $9,000-000.

The Library of the École de Médecine, of Paris, contains over 40,000 volnmes, in addition to a very interesting collection of antographs of the Deans of the Faculty from 1324 to 1789. The new building, to which the books have recently been moved, has a large reading-room which will accommodate about one hundred and fifty students.

Women Medical Students.—Of the medical colleges in this country and Canada forty six admit both men and women to their lecture classes, and nine admit women alone.

Dr. P. N. Parnowskaja, a Russian female medical practitioner, has been awarded a gold medal by the Moscow Society of the Friends of Natural Science, Anthropology, and Ethnography, for her work on the "Anthropology of Prostitutes and Female Thieves"—*Medical Press.*

Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 39, No. 26.
Whole No. 1077.

New York, June 27, 1891.

$5.00 Per Annum.
Single Copies, 10c.

Original Articles.

A VEGETABLE PLATE; ALSO A NEW TECHNIQUE IN INTESTINAL ANASTOMOSIS.[1]

By ROBERT H. M. DAWBARN, M.D.,

PROFESSOR OF SURGICAL ANATOMY AND OPERATIVE SURGERY, NEW YORK POLYCLINIC.

It must be obvious to the surgeon who has kept abreast of the advances made of late years in bowel-surgery, that perfection has not by any means been attained in respect to plates or rings for intestinal anastomosis.

In some respects Senn's bone-plates are best. But not every surgeon has these plates, in the various necessary sizes, constantly on hand. This is a mild statement, since but a month ago one of the largest surgical supply houses in this city assured me that my order for Senn's plates was the first his firm had ever received. Then, too, they take a week or more to make, and cost $2 per pair. Another drawback is their occasional obstruction of the anastomotic opening by sliding over it after some days; for they are absorbed with rather objectionable slowness.

These reasons, mainly, have led investigators to devise ready means of substitution; and the number of additional rings or plates already before the medical world is nearly a dozen.

Of these, the most prominent are the following:

1, Abbe's catgut rings; 2, Brokaw's segmented rubber rings (of tubing filled with catgut threads); 3, Robinson's plates of fresh hide; 4, Matas's solid catgut (drum snare) rings; 5, Davis' solid catgut plate: also his catgut mats.

Among all of these there is not one which can truthfully (after studying its method of preparation) be called an emergency method save No. 2, which to this extent is the best; and sometimes No. 3. As the latter (raw hide) is not by any means always obtainable on a few minutes' notice, it can only at times enter this list.

All of the catgut methods save No. 4 have the double objection that they swell greatly in any watery solution—such as the semi-liquid fæces—and, as Senn alleges, have sometimes thus produced dangerous pressure at the points of ligation; and further, that they quickly soften within the gut and lose all rigidity. This anyone can prove by putting an Abbe ring (for example) in water at the bodily temperature for even one hour.

Let us now suppose a clinical case in surgery. Suppose we as surgeons are called on unexpectedly to deal with a strangulated hernia. Our medical brethren have, following their custom, delayed sending for the man with the knife until a late hour in the case. Suppose we find, upon opening the sac, a loop of dead gut; not doubtful, but dead Assume that the patient's general condition is a fair one—enough so to warrant a half hour longer under ether.

In such a case, which is common enough, most surgeons would prefer excising the dead gut and restoring sound continuity, rather than making an artificial anus.

But now, which of the various plates and rings can be prepared in a few minutes to meet this pressing want? Hardly Abbe's rings:—made off-hand, and without preliminary soaking and untwisting in warm water, they do not make smooth pressure and they twist badly. These particular objections do not obtain against his rings of course, if they have been previously prepared. Not Matas's drum-snare rings; they must be boiled, and otherwise prepared. Not Davis's catgut plates, nor his catgut mats, obviously. The Robinson plate of green hide could occasionally be quickly made. More often it would not be procurable.

The segmented rubber ring of Brokaw would meet our requirement fairly well as to speed, but is open to the objections mentioned as against any catgut method. Then, too, this last plan is inferior to some plate, because apposing a narrower peritoneal surface than would a plate. If (as has been suggested to overcome this objection) several of Brokaw's rings be made, each of such a size as to fit neatly inside the last, and all to be sewn together so as to make a mat with a central opening—this will take considerable time.

The field, then, seems open for a really good emergency plate; and the plate of raw vegetable tissue is the one I have to recommend. I have experimented for some months, and used many kinds of raw vegetable and fruit tissue. That which I like best, for several reasons, is raw potato.

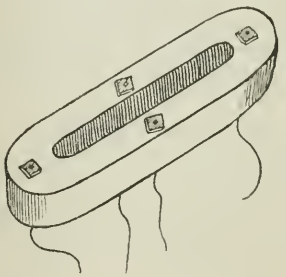


Fig. 1.—The potato plate ready for use (threads short and needles omitted).

During many weeks past, by the courtesy of Professor John G. Curtis, I have operated upon a large number of dogs in his physiological laboratory, at the College of Physicians and Surgeons, New York, and have experimented to a lesser extent at the N. Y. Polyclinic; and I present to you for your examination some dozen or so specimens, taken from as many dogs upon whom the potato plates have been recently used. My first dog died from faulty technique—the plates I made were too large for his diminutive guts. Since then I have had but one death from leakage, in simple excision of a loop of intestine, followed by lateral anastomosis in this method; and only two additional deaths from any cause whatever. The last sixteen dogs operated upon by the new technique have all lived until I chose to kill them, after several days to several weeks, in order to demonstrate the results.

I have to thank Drs. F. J Brockway and H. G. Myers for kindly aid rendered in many ways during this work, which is still being continued. But I have cause to feel satisfied that plates cut from raw potato are abundantly worthy of trial; and that they are probably, considering all things, the best of the aids to anastomosis, whether for emergency work or for that performed after deliberation. By their help, and with the new technique later to be described, a simple enterectomy with lateral anastomosis is, in dogs, almost sure of recovery.

[1] In part, read at a special meeting of the Surgical Section of the New York Academy of Medicine, held April 27, 1891.

For use upon the human gut the plates should be made about one-third inch in thickness, or for added rigidity even a trifle more. The calibre abundantly allows this. In the smaller and thicker-walled bowel of dogs, they should be rather thinner, and like Senn's bone plates, ¼ inch. To prevent the thread from cutting through, we should have it very coarse, make a large knot, and before sewing through the plate sew through a scrap of rubber cut from a drainage-tube; or, lacking this, a minute bit of cloth. The plates should be cut so long that the opening shall be about twice the normal diameter of the gut to be operated upon. This is in the line of safety, because a long slit insures easy passage of fæces from the first, and consequently avoids strain on the sutures. And also, experience shows that an ultimate contraction of the new hole to even half its original size may occur—may even be expected.

It is not claimed for the potato plate—nor I think for any plate or ring save (possibly) Senn's—that it can safely be trusted to coapt peritoneum by its four or six stitches alone, without additional sutures outside. Indeed, I believe that the best that should be said of any of these aids is that after their application the necessary sutures—Lembert or other—can be much more speedily and neatly applied; and speed is a tremendous factor in success in bowel-work. Still, the raw potato plate is very rigid, and retains rigidity considerably longer than any of the catgut methods. This is easily proven. Put the raw potato plate, together with the rings, for comparison, into simple warm water; into warm water plus pepsin and hydrochloric acid; and into warm water plus extract of pancreas and alkali. The vegetable plate will remain fairly firm long after the others have become flabby and useless.

Experience shows that it is best not to immerse the potato in carbolic solution before use, as when this is done the plate softens more quickly, at the same time turning pink.

Regarding the question of digestibility, I have specimens taken from the middle of the small gut in dogs showing that at the end of forty-eight hours the potato-plate is intact, though shrunken and soft; at the end of three days is also broken here and there; at the end of five days, has utterly disappeared. It seems probable that in similar regions of man its digestion would be quicker; since man is omnivorous, while the digestive fluids of the dog are presumably those meant for a carnivorous diet mainly.

In one specimen, from a dog killed thirteen days after using these plates, in lateral anastomosis of colon to colon, the potato was found broken, shrunken, and softened, but still in place. A ball of hair on the proximal side, allowing fæces to pass only with difficulty, may have, been a partial cause of slow removal in this instance, though the region—the colon—would perhaps sufficiently account for it.

In another singular case, one of lateral enterostomy in the middle of the small gut, the plates were found, after twelve days, shrunken and somewhat *hardened*, but broken into several pieces. In this animal, too, a ball of hair was present, and may have protected them somewhat from contact with intestinal juices.[1]

In a case of gastro-enterostomy (dying from my failure to cover in at one point an anchor-stitch) the stomach-plate was found entirely gone at the end of three days. Its intestinal fellow was represented by but a few scraps stained yellow with bile.

To sum up, the advantages claimed for the vegetable plate are as follows:

1. It may be made a real emergency method, being by far the speediest of all. I have made a pair of plates, with threads in place and ready for use, in ten minutes.

2. The potato can be procured anywhere without delay, and without cost.

3. It is a plate, and safer than a ring, because keeping in contact a wider peritoneal surface than a ring can do.

4. A very long ellipse, which is best, is easily made and maintained; some fleshy roots other than potato may by their length permit plates to be cut with extremely long apertures. This, however, can rarely be needed.

5. Unless withered and shrunken potatoes are used there is no tendency whatever to swelling, with its consequent danger from pressure, as against the catgut method.

6. It is rigid and remains so a longer time than the catgut rings. I generally soak the peeled potato for an hour or two before use; because, although with a sound potato the plate does not perceptibly swell nor change size, *it grows even harder in water for a time;* while in air, by drying, it becomes more flexible and soft.

7. One of the dangers of the bone-plate is its slow absorption, with possible sliding so as to obstruct the new opening. If a plate by its presence will aid speedy application of a line of sutures, and will then keep the denuded surfaces quiet and in contact for just a few hours, that is all we want of it. And the sooner thereafter it disappears, the sooner a possible source of danger is removed. If surgeons will only remember to *scrape well with a knife* the surfaces to be coapted, they need not ever fear a lack of rapid plastic exudation. To aid perfect quietude of the guts during this period, the critical one, I would insist upon the invariable use of as large a hypodermatic injection of morphine as the patient can safely bear.[1]

Regarding the application of these or any other plates or rings for lateral anastomosis of gut to gut, preceded by excision of a portion, the following is the technique which I would recommend as being the best. I give it in detail; in part it is new.

Assume that the dead or diseased region is cut away, being careful to sacrifice what is even suspicious; that the gut is temporarily closed with (in emergency) boiled tapes, six inches at least from each open end; and that thorough irrigation of the mucous surfaces has cleansed them of all apparent filth. (Mem.—The human gut can easily be turned mucous side out, over a finger, for a very considerable distance, thus aiding efficient cleansing.) Our needles, after threading, are tied by a single knot in the eye, to prevent loss of time by accidental unthreading. The four threads are each about twelve inches long, from the plate to the needle. Following Carson's suggestion, they may be two black and two white, although I have never had the least delay or confusion with threads all black. The needles should all have their points buried in bits of potato, each at least the size of a pea. Now,

1. Seize a needle with the needle-holder so that it shall be in the long axis of the holder. Begin with the one marked A in the accompanying diagram (Fig. 2). Pass the needle several inches into one of the open gut-ends, bringing it out through the potato on its point, and then gut-wall at the desired place, which should also be directly opposite the mesentery. Draw its thread through for a few inches. Now, with one or two fingers inserted within the intestine, seize and withdraw the scrap of potato on the thread (or else invert the gut over the finger, thus exposing it). Break the potato off the thread. Now pass needles B and C in the same way. After each thread is passed it should be held by an assistant tense against the wall of the gut on the side where it belongs, and the next needle should carefully run along the opposite wall; this to avoid tangled threads.

[1] It has occurred to me that if the fleas which so regularly infest street-dogs were killed, the dogs would not have the same incentive to gnaw their hide; and would not thus accumulate the hair which, collecting in the bowel, so annoys experimenters. A bichloride bath once or twice should prove effective.

[1] This free use of morphine has unquestionably helped to secure my large percentage of success in dogs. They are peculiarly insensitive to morphine in any moderate amount; and in even small dogs I regularly begin by a hypodermatic injection of a grain to a grain and a half of sulphate of morphine. Following this they need but little ether—sometimes none—and vomit less than otherwise. Such doses seem hardly to affect them more than ten minims of Magendie's solution would affect a man. (Here let me remark that by free use of analgesics I have always avoided causing suffering in the dogs experimented upon.)

It would, of course, be easy to vary the technique here by detaching the bit of potato with the fingers, through the gut-wall, when the right point is reached by the needle, instead of sewing through it, etc. But in that case these pieces might get between the plate and the mucous surface of the bowel and cause irregular pressure in that way. Hence the direction just given.

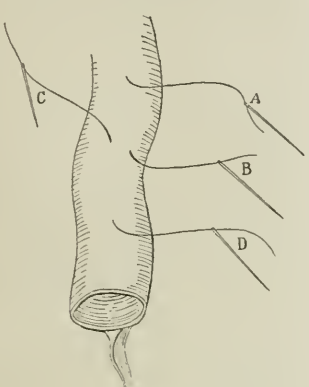


FIG. 2.—A plate in place and ready to tie to its fellow.

In the small intestine of dogs, owing to thick and comparatively rigid gut-walls, and to the absence of valvulæ conniventes, the pieces on the needle points, while a convenience, are not so necessary as in human intestine.

2. Pull lightly on threads A, B, and C, while pushing the plate from behind, drawing it thereby into place within the gut. Push, rather than pull, to avoid oblique tension on the threads and possible cutting of the plate. Next pass D and draw it also taut.[1]

3. Go through the same steps with the other plate and the other gut-end. Always leave *a full two inches* between the plate-end and the gut-end in each instance.

4. Wipe off the threads with a cloth wet in some antiseptic solution.

5. Scrape lightly but thoroughly, with a scalpel, the surfaces to be coapted. This is a most important step; and the scraping is better in every way than scratching with a needle, as a means of insuring rapid plastic exudation over the entire coapted region. The scraping requires but a few seconds. Upon the living gut each stroke is followed instantly by a somewhat congested surface, differing strikingly in appearance from the unscraped; so that it is easy to know when the desired region has been so treated.

6. Tie the four anchor [plate] threads each to its appropriate fellow, being careful to draw snugly, but not to force the pressure. The open ends should first be pointed in opposite directions. (This Abbe has recommended, although he has also obtained satisfactory results with the ends directed alike.)

7. Run at least one line of sutures around the plates, being extremely careful to cover in and hide completely the four anchor-stitches; also, though the threads must enter the muscular coat to avoid danger of tearing out, yet the utmost caution must be exercised never to penetrate the lumen of the gut with any thread save the four plate-threads, which must necessarily go directly through the wall. *Here, if anywhere, the beginner will cause a fatal result. He will insert his needle too deeply.*

If preferred, the line under discussion may be of interrupted sutures, in which case Halsted's square stitch is unquestionably the best. Personally I rather prefer, and can apply nearly equally quickly, two lines of continuous suture, three stitches to the inch. It is not wise to attempt more than three to the inch. If the thread dives beneath the peritoneum for a shorter space than one-third inch, then, as it must to avoid penetration go very superficially, it is likely to cut out when tightened. Fig. 3 shows the method which I have now employed in about twenty cases. The second line should entirely conceal the first line, just as the first hides the anchor-threads.

Extremely simple as this method is (a basting-stitch) and doubtless well known to many surgeons as a stitch, I have not found it described among intestinal sutures. Those resembling it most nearly are, so far as I can ascertain, the spiral suture of Nuncianti and the method of Gély.

I prefer it for two reasons. First, speed. Running as it does parallel with the plate-edges, it is much more quickly applied without danger of sewing too deeply than is the Lembert (in which the needle is made to enter at right angles with the line of proposed union), or for that matter than any interrupted. Two rows can be applied in nearly the same time as one interrupted. Second, safety. It would be almost difficult by this particular plan to draw the thread so tightly as to threaten sloughing. Also, if the old technique be used (that in which the side of the gut is opened to give entrance to the plate) then by this stitch one is less likely than by the Lembert to drag out, while passing it, the gut edge from between the plates accidentally. The second row of this continuous line should be so applied that where in the first row it went above the line of union it now goes below. (See Fig. 3.) Passing both rows with speed and safety will be notably facilitated if an assistant first presses the plates firmly together and draws the gut tightly and smoothly over them meanwhile.

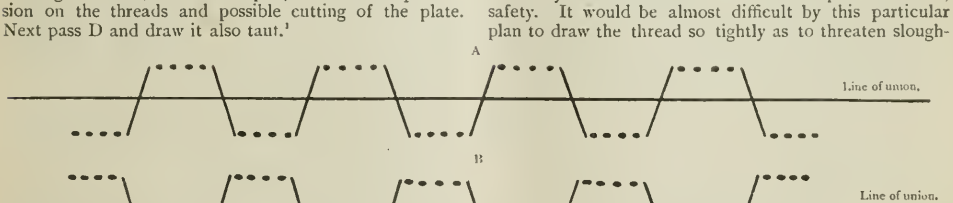


FIG. 3.—A, First row; concealing carefully the four anchor stitches. The dotted lines indicate the concealed portion of the suture. B, Second row; nearly one quarter inch farther from plates; concealing carefully the first row. Note that where A ascends B descends, and *vice versa*. The stitches in the sketch are, for clearness, drawn only about half the actual number to the inch.

To continue our new technique:

8. Run into one open gut-end a thin strip of wood, like cigar-box, or perhaps pasteboard, as wide as the potato-plate. This is to cut against.

9. Now we make our opening through the apposed and sealed gut-walls. To do this, insert a scalpel or a sharp-pointed bistoury into the other open gut-end, and cut through between the plates, carefully, making as long an anastomotic opening as the plates will allow. The strip of wood opposite prevents cutting too deeply.

In dogs, a special knife is needed for this stroke, which must in them be made blindly, guided by sense of

[1] I am not at all sure that it would not be an improvement in technique to do away with the two side-threads connecting the plates and retain only the two end ones. The anchor-threads are unquestionably an element of danger, and this is reduced one-half by the plan suggested. Of course the plates would then not be held firmly together at the sides; but, after all, we rely for our protection mainly upon the surrounding lines of suture, placed later.

touch and position of handle. I use on them a gum-lancet, sharpened on both borders as well as its hatchet-edge. But in human gut, fortunately, it is easy (the wall being much thinner), to slide the two inches of open end along, and—an assistant holding the end open with thumb-forceps—then make the cut with an ordinary knife, *seeing the whole length of the stroke*. If preferred, for safety, the blade may be wrapped with adhesive plaster or thread down to a half-inch from its point. Should bleeding follow, it could easily be controlled by forceps; but this is unlikely to happen, both because the cut is made directly opposite the mesenteric attachment, where the vessels are smallest, and also because the moderate pressure of the plates would tend to check it. By the action of the powerful circular muscles, as soon as anæsthesia is ended, the line of incision gapes as widely as the plates permit.

10. Remove the knife and also the strip of wood. Irrigate. If the cut is properly made, the water should run freely into one end and out of the other. Under gentle hydrostatic pressure, closing the outlet end with finger and thumb for a few moments, the line of suture should not leak if properly made. *This is a valuable means of safeguard and should never be neglected.*

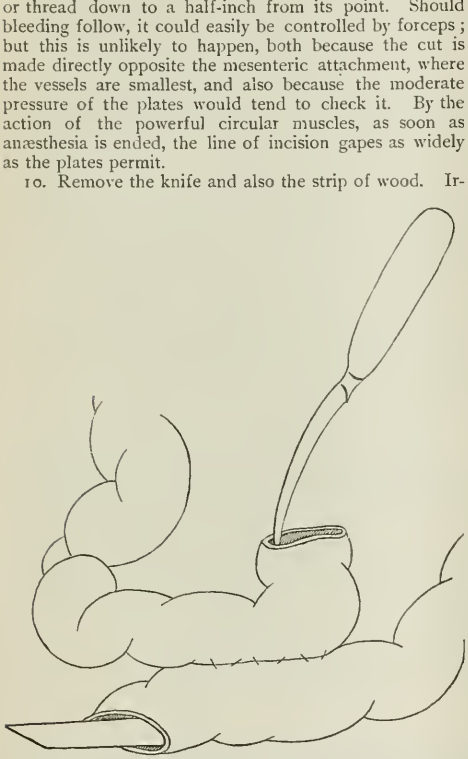


FIG. 4.—The suturing about the plates is completed; the anastomotic opening is being made; in short lines the outer row of sutures is indicated roughly.

11. Now scrape the peritoneum, and then invert one free end with a pair of dressing-forceps, carrying the intussusceptum far enough in to touch the plate. Close the peritoneum over the inverted end with two rows of the kind of running suture already described. (One row would perhaps suffice here. The long intussusceptum proves a decided protection against leakage. In dogs I have never had the least trouble with the ends, using one row only.)

12. If the surgeon, after inverting the end and before withdrawing the forceps, will transfix gut and intussusceptum with one or several needles, to be left in place until the sewing of the end is completed, he will find this step much facilitated. Do the same with the other end.

13. Take a stitch or two between the blind ends and the gut against which each should rest, first scraping lightly. This prevents possible forcing of another loop into this angle, with resultant undue tension on the stitches at the plate ends; an accident which led to leakage in one of my first experiments on dogs. It is also a safeguard against intussusception into the new opening, which has been observed by one worker in this field (Robinson).

14. If desired, apply an omental graft. I have never used these, being well pleased with the results obtained without them, and wishing, also, to avoid prolonging the operation. Further, I have desired that these new plates should have a crucial test, without unusual aids to union.

It takes a long while, as you have doubtless observed, to describe these details, but the actual application is quite brief, and indeed more so than by the plans in use heretofore.

For the sake of clearness fourteen steps have been itemized. This is not unnecessary elaboration. Success in these operations is a question of care, even unto the minutest particulars. Life or death will hang upon the tension of a thread.

I have, without extreme haste, done lateral anastomosis by this method, including tying off mesentery and excising several inches of gut, in half an hour, counting from the first stroke in the belly-wall to knotting of the last suture in the belly-wall. Of this period about twenty minutes were devoted to the bowel itself. I have no doubt that this time could in case of need be shortened several minutes.

The following points will be noted as new in the technique just advised for use with any plates or rings:

a. The method of inserting the plates and making the anastomotic opening.

b. The method of suturing.

c. The method of denuding peritoneum to hasten plastic exudate.

d. The method of protecting the sutures at the plate-ends by causing adhesion of the blind ends to the adjacent bowel.

e. The method of retaining the inverted ends by transfixion with needles while sewing these ends.

The first has the following advantages, readily appreciable by anyone who has tried other plans: Safety to patient in that the peritoneal surfaces are apposed and sutured before being opened; hence less danger of septic infection in the line of stitches.

I have compared this method, too, by actual trial, with that whereby Senn prepares a double row of Lembert stitches, then opening the side of the gut for entrance of the plate as usual, etc. The method herein given is unquestionably safer regarding infection.

Everyone knows who has done this work the constant annoyance (greater of course in dogs than men) from rolling out of the cut edges, largely due to the action of the powerful circular muscular layer. This nuisance is hereby done away with, as also is the dangerous tendency to sepsis, as well as loss of time, from pulling out the cut edges from between the plates, unintentionally, while passing the line of protecting sutures. All work about the plate should be definitely concluded before the anastomosis is made. Speed is also gained through avoiding loss of time in the various annoyances mentioned.

Among the greater advantages of this new technique is the opportunity to test readily by irrigation the perfection of our barrier of sutures and plates. This is, of course, impossible by the old plan. Just as it is advisable to do this after suture of the urinary bladder, so it is here. The time to discover a possible leak is at this moment, rather than on the autopsy-table.

I take it quite for granted that most surgeons will agree with me that the day of circular enterorrhaphy (save for very exceptional cases) is past. Work in that line is work almost thrown away. This plan has not, so far as I am aware, a single advantage over lateral anastomosis; and it has several fatal defects. I was sorry to see a very able experimenter, in an article in the *Annals of Surgery* for February, spending time over what he calls a "stove-pipe" method, whereby the distal end is deprived of its mucous surface for half an inch or more, and then the proximal end is inserted, a long rubber tube being within both.

This, while easy on the thick gut of dogs, is not easy on the very thin human intestine. In the lower half of the small gut of man the entire thickness of all six or seven anatomical layers composing its wall is so trivial that a newspaper placed within can be read.

Furthermore, any circular method necessarily, from the very beginning, makes a smaller opening than the normal; and even this is bound to shrink. Such methods, too, threaten leakage at the deadly mesenteric junction. They are difficult where removal of a considerable length—more than a few inches—leaves sound ends of differing calibre. By any "stove-pipe" method, such as Jobert's or Robinson's, mistaking the proximal for the distal end would be fatal; and though Nothnagel's salt test seems an unsafe guide, we do not wish, in a herniotomy, to start at the cæcum and handle perhaps ten or fifteen feet of gut to make sure which end is proximal! By the bye, if much is removed, the proximal end can be recognized by its being, in any part of the bowel, down to the rectum, the larger in calibre (that is, of course, comparing large with large and small with small gut). This fact, too, is against any stove pipe plan, since the big end would have to be inserted into the little one. No time is saved by the circular enterorrhaphy as compared with the lateral anastomosis just described. And finally, in favor of the latter method, it makes no difference thereby which is the proximal end or what the relative calibres.

Of late the German school of surgeons have made what I believe to be a distinct backward step in casting aside all plates, rings, etc., and trusting solely to suturing without such aids. Their objection thereto is certainly a weighty one. The threads whereby such plates or rings are connected have passed first through a fæces poisoned mucous membrane and then the peritoneum. This fact, together with the liability to subsequent infection by capillarity, cannot be denied.

But a point upon which I insist in the present paper is that these plate-stitches must be *covered in* by the continuous or interrupted layer or layers outside, which latter do *not* enter the lumen of the gut. And if this is done the relative danger of infection is but trivial, since, if suppuration should occur at the primary stitch-holes, the pus, following the direction of least resistance (the softened plates not opposing), re-enters the interior of the gut.

In everything we do as surgeons and physicians we have to choose the lesser evil; and it is, I firmly believe, a lesser evil to use plates by the technique which I have just described than to attempt to do without them, thereby necessitating a longer operation with its perils. Speed, let me repeat, is a tremendous factor in success in peritoneal work.

I have conscientiously tried almost all methods that have appeared in the journals during the past five years, in my operative surgery classes. In that time I have certainly demonstrated enterorrhaphy upon human cadavera by one or another method at least one hundred and fifty times, and in addition have experimented considerably on dogs. And I am satisfied that the method herein advocated, in all its details, is the safest of any with which I am acquainted.

A Protest Against Licensed Prostitution.—A memorial has been presented to the Japanese Parliament, praying for the abolition of licensed prostitution in the empire. It is contended by the petitioners that the system encourages immorality, debases woman, and promotes, rather than hinders, the spread of venereal disease. There never was a measure, the memorial states, which showed more plainly the sex that devised it than this system of license, and never one which showed more the brutal side of man's nature. It is a scheme to protect man in his baser impulses at the expense of woman; and society is corrupted in the effort.

Clinical Department.

FOREIGN BODY IN THE LUNG.

By E. G. EPLER, M.D.,
FORT SMITH, ARK.

While assistant physician at the Cook County Infirmary, Chicago, Ill., the following case came under my observation:

August W——, a native of Sweden, forty years old, was admitted August 7, 1884, for lung disease. But little could be learned of his past history.

He complained of frontal headache, fever, pain in the right side of the thorax, and cough, with expectoration of heavy yellow sputa. Dyspnœa was marked. Respiration jerking and irregular. The inspiration was quick and sharply ended. The expiration was prolonged. Pain at times was excruciating. Copious hemorrhages from the lungs occurred frequently.

On physical examination the heart was found to be normal. Auscultation of the lungs revealed fine crepitant and submucous râles over the right lower lobe, anteriorly and posteriorly. Coarse râles were heard throughout the other portions of chest. Percussion was painful over the lower lobe of the right lung. Marked dulness was elicited at this point, but the resonance was normal over the remainder of the chest. The patient gradually failed, dying July 20, 1885, nearly one year after his admission.

Post mortem Examination.—The heart was normal. The bronchial mucous membrane was granular in appearance and congested. Otherwise, the middle and upper lobes of the right lung and the entire left lung were normal. The lower lobe of the right lung was solid, and was firmly adherent to the thoracic walls. In detaching it the lung-tissue was torn. A cavity filled with clotted blood was found in the lower and posterior part of this lobe. In the midst of the clot was found a rusty piece of metal, similar to the clips used in certain batteries for the purpose of closing the circuit. It was 2½ inches long by ½ inch broad, of the thickness of writing paper.

How the foreign body had become lodged there is a mystery. There was no cutaneous scar, nor evidence of a wound of the œsophagus. It must have passed down the trachea.

A FIVE INCH HAIR-PIN IN THE POSTERIOR NARES.

By M. W. KELLIHER, M.D.,
PAWTUCKET, R. I.

On Thursday, May 28th, I was called to see a young lady, aged twenty, who said that the day previous she had swallowed a pin. She said she had been to three physicians, and was told that it was imagination on her part. Upon examining her throat I, too, thought that imagination was her highest prerogative. She insisted, however, that she swallowed a pin.

Upon questioning her in regard to the size of the pin, she said it was a regular-sized hair-pin. She said that she thought she felt it in her nose that day. I now felt more incredulous than before. However, I inserted a probe into the right nostril and found that there was a foreign body in the posterior nares on that side. I was able to mark out one prong of the hair-pin, but the end was inserted into the mucous membrane of the nasal bone. After some difficulty I was able to catch it with a long, slender forceps. Where the other prong of the hair pin was located I could not find out. However, I thought I would risk it, and make traction. I succeeded in getting one prong about one-half inch through the right anterior nares when in the meantime the other prong came through the right nasal bone close to the inner canthus of the right eye. I then removed the hair-pin by pulling it through the right nostril. It was a regular-sized hair-pin, measuring about five inches from point to point.

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & Co., Nos. 56 and 58 Lafayette Place.

New York, June 27, 1891.

THE CAUSE OF DIPHTHERIA IN RURAL DISTRICTS.

DR. LONGSTAFF, in a recent voluminous work on "Statistics, Social, Political, and Medical," makes an interesting study of the causes of diphtheria, more particularly, of course, as it occurs in Great Britain. He finds that it is a disease of the country rather than the city. Thus for every 1,000 deaths from the disease in dense districts there are 1,178 deaths in medium districts, and 1,507 in sparse districts. With regard to specific causes Dr. Longstaff says: "The cause or causes should not be sought for, primarily, in any high development of civilization, such as sewers, but rather in some condition associated with more primitive modes of life. Again, privies and ash-pits can hardly be important agents in breeding or disseminating the disease, or we should expect to find diphtheria exceptionally prevalent in those northern towns where such nuisances reach their worst, whereas the contrary is the case. On the other hand, low vegetable organisms developed in damp dwellings would perhaps fit in with the facts that I have brought forward; or again, some evil special to shallow wells, or other primitive sources of water-supply. The line of investigation, however, which seems to me most promising, lies in comparative pathology. The peasantry live on intimate terms with domestic animals, more particularly cows, sheep, pigs, and poultry (including pigeons). Some little known disease of some one or other of these creatures may be capable of inducing in men or women, brought into frequent or close contact with them a trivial 'membranous sore-throat;' then under suitable conditions of recipient and environment, the more generally recognized form of the disease, 'true diphtheria,' or, as it used to be called, 'cynanche maligna,' may result. The poison, perhaps gathering intensity and infectiveness, may then be conveyed into towns by farm produce, such as milk, cream, or poultry, conceivably by eggs, meat, or vegetables; and lastly, through the persons first infected, the sources of water-supply or the public sewers may get poisoned, and so, indirectly, aid in the spread of the disease."

The suggestion is one that country practitioners should bear in mind. At the same time it is quite possible that the lessened death-rate from diphtheria in large cities is due to a superior sanitary organization.

FATHER MOLLINGER'S FAITH-CURE.

THE phenomena of faith-curing, mind-curing, and similar exhibitions of human credulity have become so common as to cease to be interesting. Their history is nearly always the same, the psychological process is identical whether it be some holy well in Canada, or some fashionable mystic on Fifth Avenue. A recent illustration of faith curing by a Catholic priest near Pittsburg, Pa., however, presents some novelties. The priest in question, Father Mollinger, is, we are told, deaf, rheumatic, and neurasthenic; nevertheless he has acquired an enormous fame for curing those and other maladies. This he does, however, not only by his prayers and blessings, but by giving medicine also. His work represents the potency of faith and drugs combined. They worked so well and gave him such a reputation that his very success was the cause of his undoing. The climax of Father Mollinger's power was believed to be reached on St. Anthony's day. At that time hundreds of people travelled to his church from all the country round, and even from distant places. Hemiplegia, paraplegia, rheumatism, phthisis, epilepsis, cases of blindness, deafness, and all sorts of chronic ailments were brought to the priest. The numbers were so great as to tax the capacity of all means of conveyance, and the church was full and surrounded by a riotous mob of anxious and faithful seekers for health.

The result is best told in a despatch from Pittsburg published the day following: "The misguided sufferers who fancied that they had but to be blessed by Father Mollinger to be relieved of their afflictions are now returning in carloads to their distant homes. Many go away crippled in body, ruined in pocket, and in despair instead of hope. The reaction is so great that the sight the disappointed present is most touching.

"There passed through the Union Station to-day several hundred maimed, halt, and blind persons, who were returning home after a week of prayer at Father Mollinger's chapel. None of them had been relieved in the slightest manner, and many were suffering severely in consequence of the exposure to which they had been subject. Several women who live in the eastern part of the State were brought to the Union Station on litters or stretchers, because they were too ill to sit up. A number of men who had been able to walk with the aid of crutches when they came to Pittsburg had to be wheeled through the station to the day express in armchairs. They had broken down under the strain and the disappointment."

The story of Father Mollinger would prove what we have always asserted, that popular faith-cures and miracle-cures do more harm than good. It is very well to infuse hope and courage into the sick; it is wise to try and change the mental condition of the hypochondriacal and nervous; but it is almost exclusively on cases of this kind that faith works well. And if we must have miracle-cures they should be prescribed by a physician, like baths, massage, and pills.

A SUPREME COURT DECISION OF INTEREST TO PHYSICIANS.

IT is not often that the Supreme Court of the United States is called upon to decide a question of special interest to medical men as distinguished from other patriotic

citizens, but such a question was decided not long ago. The ruling was on the right of a railway company, when sued by a person who has sustained injuries, to have such person examined by its own surgeon.

A woman sued the Union Pacific Railroad Company, in the Circuit Court of Indiana, on account of an injury of the spine, which she claimed had resulted from the fall upon her of an upper berth in a sleeping car. Three days before the trial the company asked the court for an order requiring the woman to submit to an examination by the company's physician, the examination to be made with as little exposure of the person as possible and in the presence of the physician of the injured woman. The court overruled this motion on the sole ground that it had not the legal right to enforce such an order. The case came before the Supreme Court on the correctness of this ruling, and the latter sustained the lower court, saying that such an examination is an invasion of the sanctity of the person to a degree that the law does not recognize, and that it is inconsistent with the common law. The opinion said that the court could not find that until within a generation it ever was thought that a court of common law had such a power as was claimed in this case.

Justices Brewer and Brown dissented from this ruling. Justice Brewer said that actions for damages for personal injuries, now so common, were very infrequent years ago, and that it was therefore an open question, and one not determinable under the old common-law procedure. If a person permitted exposure for the purposes of examination by the physicians who would be called to testify in her behalf, it seemed to him but common justice that an order should be made to permit examination by the opposite side. He did not think it right that any person, after making disclosures of the person where her interests were promoted, should be allowed to refuse this permission to a physician representing the company sued, on the plea of sanctity of the person.

We would not presume to decide which of these conflicting opinion is the better law, but it is easy enough to see which has the most justice and common-sense on its side.

THE USE AND ABUSE OF DENTAL CHARITY.

A very interesting paper with the above title was presented by Dr. Richard Grady, of Baltimore, to the Section of Oral and Dental Surgery at the meeting of the American Medical Association in Washington in May. It seems that our dental friends have not been as wide awake to their own interests as they should have been, and now they find that, like their medical brethren, they have allowed their colleges to establish dispensaries, one after the other, "for the relief of the indigent poor and the instruction of students," until the time has now come when they realize that these same dispensaries are treating the well-to-do as well as the really deserving, and taking the bread out of the mouths of their own graduates for whose interests, as students, it was claimed that the infirmaries were established.

It is only recently that this abuse has attained such proportions as to alarm the members of the dental profession, and this protest of Dr. Grady is, we believe, the first that has been made publicly against the constantly growing evil. The Maryland Dental Protective Association was organized in Baltimore, in February, a year ago, its object being to regulate the administration of dental charity, but thus far nothing has resulted from the movement except the adoption of a resolution calling upon the dental colleges to insist upon the giving of aid to the really indigent only, which resolution, as far as heard from, has not yet effected the desired reform.

The author of the paper had informed himself very carefully as to the conditions of infirmary treatment in the different dental colleges of the country, and had found that abuses existed in nearly all, though in varying degree, some discriminating against patients who appeared to be in comfortable circumstances, others taking everybody that came along in their scramble for clinical material. One college had adopted a truly unique method "to discourage well-to-do people by making charges a little higher than those ordinarily made in offices." Inquiries had also been made among dentists in the larger cities as to the effect upon practice of the competition with the colleges, and the answers to these inquiries were, as was to be expected, that the injury done to the younger men in the profession was a very real one. The colleges advertised for patients, setting forth in glowing terms the excellence of the workmanship and the extreme reasonableness of the charges, and thereby at once gained an advantage over the individual dentist, who was debarred by professional opinion and the fear of forfeiting the respect of his associates from advertising in a similar fashion.

But it is not so much the facts presented by Dr. Grady, as it is the manner in which his hearers received his paper, to which we wish to direct the attention of our readers. The paper was discussed after it had been read, and again the following day, its discussion having been made the regular order for that session. The result of this was the unanimous adoption of a resolution that "the Section would suggest to the National Association of Dental Faculties the importance of some action toward correcting any existing abuses of the charities connected with dental colleges or schools." We are glad that the dental surgeons have taken this matter up with the intention of doing their best to right the beginning wrong, and we wish them the greatest measure of success in their crusade. And we wish this not alone for their sake, but also because, if they succeed, it may give heart to those of the medical profession who are trying to secure for their younger brethren the means of a decent livelihood by freeing them from the unjust and ruinous competition of the dispensaries and clinics which take so many patients that should belong to the private practitioner.

The Washington State Medical Society held its Second Annual Meeting in Seattle, on May 6th, 7th, and 8th. The meeting was largely attended, and a number of interesting papers were read. The following officers were elected for the ensuing year: *President*, Dr. H. C. Willison, of Port Townsend; *First Vice-President*, Dr. G. W. Libby, of Spokane; *Second Vice-President*, Dr. H. P. Tuttle, of Tacoma; *Secretary*, Dr. Elmer E. Heg, of North Yakima; *Treasurer*, Dr. James B. Eagleston, of Seattle. The next meeting will be held in North Yakima, Wash., beginning the second Wednesday in May, 1892, and will continue for three days.

News of the Week.

The Late Dr. Fordyce Barker.—The New York Academy of Medicine mourns in Dr. Fordyce Barker the loss of one of its oldest members, who, for six successive years was its President, and by his peculiar traits of character, and the interest he displayed in the success of its work, contributed largely to its development and rise. His earnestness of purpose secured for him the respect of his fellow-practitioners, his teaching the esteem of large audiences, his writings the appreciation of the medical profession both in our country and abroad, and the never-disturbed kindliness of his disposition and his incomparable urbanity of manner the admiration of hosts of friends. His departure will long be deplored, both by his medical brethren and the public; and long will he be missed on the floor of the hall of the Academy which he graced by his very presence.

A. Jacobi, M.D.,
William T. Lusk, M.D.,
A. A. Smith, M.D.,
Committee.

Esteem for Dr. Barker in England.—At a meeting of the London Gynecological Society, on June 19th, Dr. Barnes moved a vote of condolence with the family of the late Dr. Fordyce Barker, who was an honorary member of the society. Dr. Barnes spoke of Dr. Barker as a man honored by all. He had never known a man more generally beloved. Dr. Phillipson seconded the motion. He remarked that to say that America had lost one of her most illustrious physicians was to express very imperfectly the sense of their loss. The memory of Fordyce Barker would long be revered and cherished. The motion was unanimously adopted.

The Will of Dr. Fordyce Barker.—By the will of the late Dr. Fordyce Barker, the New York Academy of Medicine is to receive all the works in his library relating to obstetrics, gynecology, and the diseases of children.

The Late Dr. Fordyce Barker.—The *British Medical Journal* pays the following tribute to the memory of our late colleague, Dr. Barker: "For many years he was a regular visitor to our shores. Everyone who had once seen his handsome face, beaming with bright intelligence and kindness of heart, longed to see him again. At the annual meetings of our Association he was often present and always welcome. This feeling found cordial expression in the titular honors showered upon him by our societies, colleges, and universities. It is a long list to draw up. Not one who looks over our academical rolls but will recognize his name with pride and affection. We cannot now describe all his work. His book on puerperal fever charms by its style, while it instructs by the richness of experience and the soundness of its reasoning. He was, we believe, connected with Dr. Fordyce, who holds so prominent a place in the history of English medicine. The portrait of Dr. Fordyce was treasured in his house. All who were acquainted with Dr. Barker were familiar with his peculiar utterance—a hoarse whisper, but still very distinct. It was the result of paralysis of the vocal cords. This defect in no way impaired his power as a speaker or lecturer. His classes at New York were well attended. He was a popular and effective teacher. He leaves a widow, who traces her descent from Pitt, our great statesman. Her personal qualities, inherited and reflected, endeared her to many friends. He leaves also an only son, who holds an eminent position in the States."

Fordyce Barker, M.D., LL.D., was born at Wilton, Me., May 2, 1818, his father having also been a member of the medical profession. He was graduated from Bowdoin College, Brunswick, Me., in 1837, and from the Bowdoin Medical School, May 12, 1841; having passed a year in Boston in the hospitals under his preceptor, Dr. Henry I. Bowditch, by whose advice he selected his new home carefully, as he had a tendency to pulmonary disease. Finding that Norwich, Conn., met this need, he located there in the summer of 1841. From being the youngest he soon rivalled the best-established physicians. Dr. John Gray, of Mystic, was his first medical student (and was present at the funeral services at Norwich, June 3, 1891). He married September 14, 1843, and his wife survives him. In 1844 the way opened for carrying out Dr. Bowditch's wish of 1841—that he should study for a French degree. He left this country for Havre, France, October 1, 1844, from New York. The winter was devoted to hard study, following the hospitals, and attending lectures. He passed June and July, 1845, in travel, but was recalled unexpectedly in August by the severe illness of a loved relative. His diploma was afterward sent to him. Baron Dubois, Trousseau, and Sir Joseph Oliffe were among his friends. He resumed practice at Norwich, September, 1845, and was soon known throughout the State. A paper that he read (at Hartford) before the Connecticut Medical Society attracted much attention. In 1846, at the age of twenty-seven, he was elected Professor of Midwifery at Bowdoin Medical School. He filled the chair but one year, finding that the needed absence interfered with his practice. In 1848 or '49 he was visited by Professor Chandler F. Gilman, with reference to removal to New York. Subsequent events led to his locating in this city in 1850, leaving a large and valuable practice. Here he became a member of the Faculty of the New York Medical College in East Thirteenth Street, and subsequently of Bellevue Hospital Medical College. He belonged to the latter at the time of his decease. He had also been a member of the Bellevue Hospital Medical Board, and the only survivor of the governors who appointed him is the Hon. William M. Evarts. He was a member of many leading societies, both medical and literary, in this country and in Europe. He was the recipient of many honors. He held the presidency of the New York Academy of Medicine from 1878 to 1884, and did much for its prosperity. He received the honorary degree of LL.D. four times—on June 12, 1878, from Columbia College, New York City; on April 17, 1884, from the University of Edinburgh at its tercentenary celebration; in June, 1887, from Bowdoin College, his Alma Mater; and on August 10, 1888, from the University of Glasgow. A fifth LL.D. was offered him by the University of Bologna, Italy, at one of its great anniversaries, but he was unable to attend. His discrimination and judgment led prominent lawyers to seek his aid, and he was often

retained by them in difficult cases. In the celebrated Guiteau case he at first refused to testify; but on the receipt of a personal request from President Arthur, consented. He only saw Guiteau in the court-room when giving his calm opinion as an expert. It was said that it had much influence with the jury and the Attorney-General. His reputation was world-wide, and his friends many in both American and European cities. He was not only honored as a great physician, but as a Christian gentleman, a ripe scholar, a genial companion, a loyal friend. Among his patients have been many whose names are familiar, one of them being General Grant. All that medical skill could do was done for him in his short illness, Dr. Anderson coming to him at once, and Drs. Thomas M. Markoe and Dr. William H. Draper meeting Dr. A. A. Smith in consultation. But naught availed to keep him here. On Saturday, May 30, 1891, his earthly life closed, and he entered into rest. He leaves a fragrant memory with his profession and with his countrymen.

The American Society of Microscopists will hold its fourteenth annual meeting in Washington, D. C., August 10th, and continue in session five days. Its roll of active members contains about three hundred and fifty names, the membership consisting of professional men and students of the natural sciences, who use the microscope in their daily avocations as an instrument of research, diagnosis, or precision, and amateurs. In its earlier years the latter predominated in the membership of the society, but at present the professional element is largely in excess. The qualifications for membership are very simple. The applicant must be a respectable person socially, and interested in the use of the microscope. The dues are $2 per annum, and the initiation fee $1. Applications for membership should be made to the Secretary, Dr. W. H. Seaman, No. 1427 Eleventh Street, Washington, D. C. The application should be accompanied by $3, which is the initiation fee and one year's dues.

The Medical Association of Central New York held its Twenty-fourth Annual Session at Buffalo, N. Y., June 2, 1891. It was largely attended, and a long but interesting programme was disposed of under the efficient presidency of Dr. Nathan Jacobson, of Syracuse. The following officers were elected for the ensuing year: *President*, Dr. Alvin A. Hubbell, of Buffalo; *First Vice-President*, Dr. Louis A. Weigel, of Rochester; *Second Vice-President*, Dr. Henry L. Elsner, of Syracuse; *Secretary*, Dr. Edward B. Angell, of Rochester; *Treasurer*, Dr. Alfred Mercer, of Syracuse. Hereafter one meeting of the Association will be held each year, the time chosen being the first Tuesday of June. The meetings will be held in Buffalo, Syracuse, and Rochester in rotation. The next one is to be held in Syracuse.

The Association of Military Surgeons.—The regular meeting of the Association of Military Surgeons of the Wisconsin National Guard, was held in Milwaukee, June 20, 1891. The proposed meeting of the Surgeons of the National Guard of the United States, which was to have been held in Chicago next July, has been postponed until September. At that time every effort will be made to organize an Association of Military Surgeons of the National Guard. So far, about four hundred have expressed a willingness to attend. Judging from the correspondence received, the organization of the association is assured. At its first meeting papers will be read by Surgeon-General Bryant, of New York N. G.; Surgeon-General Yandell, of Kentucky N. G.; Surgeon-General Senn, of Wisconsin N. G.; Surgeon-General of Illinois N. G. The association will be entertained in Chicago by the local Guard.

Dr. Bacon's Golden Jubilee.—The following resolutions were adopted at the Annual Meeting of the Oswego County Medical Society on June 9, 1891:

Whereas, Dr. Charles G. Bacon, of Fulton, N. Y., aged seventy six, and whose connection with the Oswego County Medical Society the records show to have been since the year 1841; and

Whereas, The proceedings of this Society show his continual presence and participation each and every year for the past fifty years without a break or excuse; and

Whereas, He has occupied every office in the gift of this Society, and for most of the time being its financial banker and treasurer; therefore, be it

Resolved, That we round out the Semi-Centennial of Dr. C. G. Bacon, and declare him most cordially and unanimously elected our presiding officer for the ensuing year; and

Resolved, That the Secretary be authorized to send a copy of the above to the MEDICAL RECORD and the *Journal of the American Medical Association* as a direct challenge to any county or state society to beat this record.

The Johns Hopkins Co-educational Medical College.—Miss Mary Garrett has contributed an additional $10,000 to the endowment fund of the proposed Johns Hopkins Medical School, says the Baltimore correspondent of the *Journal of the American Medical Association*. In a letter dated April 27th, addressed to President Dobbin, of the Board of Trustees, she makes this offer payable October 1, 1892, subject to the following conditions: That by February 1, 1892, the trustees raise the remainder of the sum necessary to bring the endowment up to $500,000—the minimum limit proposed by the trustees—and further that the trustees shall give notice in February, 1892, that they will open the school in October, 1892, and shall actually open it then. The committee of ladies organized to raise $100,000, having accomplished their object, has disbanded. The following represents the present status of this endowment: The entire sum raised by the committees of ladies of Baltimore and elsewhere and paid over to the trustees May 1st was $111,000; there were already in hand additional funds sufficient to raise this amount to $178,780. In order to avail of Miss Garrett's offer, it is therefore necessary to raise $221,219. The trustees have accepted her offer and have resolved to endeavor to raise the balance required. Of the $111,300 raised by the ladies, Baltimore contributed $68,882; the next largest contribution was Boston's, $20,231, and Philadelphia's $8,075. If the ladies would only raise $200,000 to endow some medical college already in existence it would do a vast deal more good. The college in this city, for example, would be enormously helped by it.

The Association of German Alienists will meet this year at Weimar, on September 18th and 19th

St. Francis Hospital, New York.—Dr. August Siebert has been appointed Visiting Physician to St. Francis Hospital.

Sir Prescott Gardner Hewett, a distinguished English surgeon, died in London, June 20th. He was one of the Sergeant Surgeons to Queen Victoria and surgeon in ordinary to the Prince of Wales. He was educated at St. George's Hospital in London, and subsequently took a complete course in surgery at a Paris school. He became a member of the Royal College of Surgeons in 1836, was elected an honorary Fellow in 1843, and a member of the Council in 1867. He succeeded Sir James Paget as President of the Royal College in 1876, and in 1883 he was created a baronet.

The New York College of Physicians and Surgeons.—We have a little more exact information in regard to the union of the College of Physicians and Surgeons with Columbia College, which has not hitherto been published, than we had at our last issue. It is true, as we supposed, that the old College found that even the gifts of the Vanderbilt family were not sufficient to enable the Faculty, with all the fees of their large classes, to run the institution in a proper manner. Doctors have borne deficits enough in New York City for the sake of honor and fame, and we suppose the Faculty of the College of Physicians and Surgeons were not willing to make up the large sum necessary to furnish advanced medical education in the beautiful buildings so generously given to them. The seven regular professors are to receive $7,000 a year, not $7,500 as we stated, and this arrangement is to last for ten years. The Medical Faculty have the right of nominating persons to fill vacancies in their departments. It has not yet been settled as to whether, under the union, the new faculty shall be called the Faculty of Physicians and Surgeons or the Faculty of Medicine. Certainly, as we said before, the union is a great gain for medical education in this country. In one medical college, at least, the Faculty may dare to be thoroughly independent in dealing with students.—*The Post-Graduate.*

A Maternity Hospital in Sitka.—The lying-in woman in Southeastern Alaska is not a person to be envied, for she would seem to have received rather more than her share of the curse recorded in Scripture as having been pronounced over woman. One of the native customs in that part of the world is to turn a woman who is about to become a mother out from her home, providing for her only a small, rude shelter of boards, bark, or canvas as a protection from the weather and from public observation. In one of these desolate little huts, on the cold, damp ground, the Alaskan babe is ushered into the world and the mother suffers unattended by skilled nurse or physician. The child is half washed, greased, and speedily rolled up in a skin or blanket, which is padded with dried grass or moss. The little pappoose thus bandaged, is better cared for than the mother, who has even less proper attention, or more that is improper, and the chances of accident or disease on the mother's part are much greater than in the case of the infant, although the latter is often short-lived. Recently an effort has been made by some of the citizens of Sitka to provide better accommodations for native women during the period of their confinement, and through the exertions of Dr. Thwing and others a plan has been matured and some funds have been obtained for the erection of a building in the native village to be used as a lying-in hospital, and to be known as the St. John's Maternity of Sitka. One of the residents has given a plot of ground, and donations enough have been received from friends in Sitka and in Brooklyn to allow the purchase of lumber for a small building. It is hoped to obtain native labor free to erect part of the house, but foremen will have to be hired and money must also be paid for the painting and plastering and also for the beds, stoves, and other furniture. The projectors of the hospital hope to finish the building before the winter, and to enable them to do this they need more money. Any who desire to help may send their contributions to the following gentlemen, who have consented to act as trustees for the hospital, and will cheerfully acknowledge any gifts, however small: Lieutenant Emmons, executive officer of the United States gunboat Pinta; Mr. Edward de Groff, agent of the Pacific Coast Steamship Company; Dr. Clarence Thwing, physician to the Mission Hospital, Sitka.

A New Building for the Medical Department of Tulane University.—Mrs. Richardson, wife of Dr. T. E. Richardson, of New Orleans, has given $100,000 to the medical department of the Tulane University to erect a new building. A site has been purchased on Canal Street and Dr. Touchar has been delegated to visit the Northern medical colleges, as a representative of the faculty, to investigate them, and to suggest the proper sort of building to be erected.

The Berlin Municipal Council has decided to confer the freedom of the city on Professor Virchow, on the occasion of his attaining his seventieth birthday. The great pathologist's portrait will also be hung in the Council Chamber.

Dr. Liébault, the founder of the Nancy hypnotic school, was presented a few days ago with an *objet d'art*, as a testimony of esteem for his talents. A number of foreign medical men are among the subscribers to this testimonial, some of whom were present at the banquet given to Dr. Liébault.

An Unrecorded Symptom of Pertussis.—Among the premonitory symptoms of whooping-cough authors mention conjunctivitis with excessive lachrymal secretion; but according to Dr. Huguin, of Tourteron, to these ocular symptoms there should be added photophobia, with dilatation of the pupil, which he has observed pretty constantly in cases under his care, and that in the absence of all medicinal treatment, by belladonna or otherwise.

A New Dispensary Building.—The new building of the Eastern Dispensary, now called the Good Samaritan Dispensary, was opened for public inspection recently. It is at the corner of Broome and Essex Streets, one block from the old building at Grand Street that has been occupied for years. The new dispensary cost $133,000.

State Aid to Medical Education.—There is a prospect that the State of Pennsylvania will give the Medico-Chirurgical Hospital $70,000, to enlarge its buildings; the legislature has passed the bill which only awaits the signature of the Governor.

Reviews and Notices of Books.

Wood's Medical and Surgical Monographs for April. Contents: "Treatment of Syphilis of the Nervous System," by Julius Althaus, M.D., M.R.C.P. London, Senior Physician to the Hospital for Epilepsy and Paralysis, Regent's Park. "Railway Injuries, with Special Reference to those of the Back and Nervous System in their Medico-legal and Clinical Aspects," by Herbert W. Page, M.A., M.C. Cantab., F.R.C.S. England, Surgeon to St. Mary's Hospital, Lecturer on Surgery at its Medical School, Consulting Surgeon to the Cumberland Infirmary, Examiner in Surgery University of Cambridge. "Causes and Prevention of Phthisis," by Arthur Ransome, M.D., M.A., F.R.S., Honorary Physician to the Manchester Hospital for Consumption and Diseases of the Throat. Pp. 283. Single copies, $1; per year (published monthly), $10. New York: William Wood & Co.

Space will not permit extended review of the April "Monographs." All three of the essays are masterpieces of master hands. The names of the authors alone are vouchers for the book's excellence. Professor Ransome's essay on "Phthisis" is remarkably good, and deserving of careful study. His division of the subject is an index of its character: "Pathology and Affinities of Tubercle," "Topography and Distribution of Phthisis," "Predisposing Causes of Phthisis," and, lastly, "Prevention of Phthisis."

Ninth Annual Report of the State Board of Health of the State of New Hampshire, for the Year ending October 31, 1890. Pp. 343. Manchester: John B. Clark.

Dr. Irving A. Watson has compiled an interesting and valuable report, which contains considerably more than the usual dry statistics. There are articles on "The Prevention and Cure of Disease," "Dangers from Adulterated Foods," "Sewer gas Poisoning," and "Phthisis."

Thirteenth Annual Report of the State Board of Health of the State of Connecticut, for the Year ending November 30, 1890. With the Registration Report for 1889, relating to Births, Marriages, Deaths, and Divorces. Pp. 522. New Haven: Tuttle, Morehouse & Taylor.

The vital statistics of this volume are unusually complete, and there are many other features which make it of value, among them some excellent remarks about typhoid fever, a report on epidemic influenza, and articles on poisoning by illuminating gas and adulterated food. Professor C. A. Lindsley, M.D., of New Haven, is the efficient secretary of the Board of Health.

Examinations by the State Board of Health of the Water Supplies and Inland Waters of Massachusetts. 1887-90. Pp. 857. Illustrated. Boston: Wright & Potter Printing Co.

This bulky volume is devoted to the subject of Water Supply and Sewerage, and the matter is most exhaustively and scientifically discussed. Thomas M. Drown, M.D., Chemist of the Board; G. H. Parker, Biologist; and F. P. Stearns, C.E., Engineer of the Board, contribute the several articles.

Transactions of the Iowa State Medical Society for the Year 1890. Held at Des Moines, April 16th, 17th, and 18th. Vol. VIII. Pp. 307. Cedar Rapids, Ia.: *Daily Republican* Printing and Binding House.

The profession in Iowa is up to the times, and the book in hand contains a great number of excellent papers, and the reports of a number of very interesting cases.

Historical Sketch of the University of Maryland School of Medicine, 1807-90. With an Introductory Chapter, Notices of the Schools of Law, Arts and Sciences, and Theology, and the Department of Dentistry, and a General Catalogue of Medical Alumni. By Eugene Fauntleroy Cordell, M.D. (Class of '68). Illustrated. Pp. 218. Baltimore: Isaac Friedenwald.

The title of Dr. Cordell's book is a good index to its contents. It is a valuable addition to the history of Baltimore, and one that is of especial interest to the medical profession. There are contained excellent pictures of the members of the present faculty, and of some of their famous predecessors.

Practical Treatise on Electricity in Gynecology. By Egbert H. Grandin, M.D., Chairman Section on Obstetrics, New York Academy of Medicine; Obstetric Surgeon, New York Maternity Hospital; Obstetrician, New York Infant Asylum, etc.; and Josephus H. Gunning, M.D., Instructor in Electro therapeutics, New York Post Graduate School; Gynecologist to Riverview Rest for Women; Electro-Gynecologist, Northeastern Dispensary, etc. Illustrated. Pp. viii., 171. New York: William Wood & Co. 1891.

This unassuming, but excellent, manual is pervaded by an admirable tone of conservatism which distinguishes it from others on the same subject that have appeared during the past three or four years. Unlike many of the over-enthusiastic electro-therapeutists, who claim that no pelvic disorder can resist the potent agent, the claims of which they urge, the authors present, in a simple and unbiassed manner, its limits as well as its capabilities. Such an attitude is especially attractive to the thoughtful general practitioner, who is often at a loss as to which of the many hobbies he should ride. The book consists of six chapters, the introductory one, of fifty-four pages, being devoted to theoretical considerations and descriptions of apparatus; the second, of nearly equal length, deals with the routine uses of electricity, as applied to the treatment of amenorrhœa, dysmenorrhœa, subinvolution, pelvic pain, and disease of the adnexa. The authors are avowed supporters of the electrical treatment of early ectopic gestation, and present a short, but excellent, *resumé* of the most recent views on this subject. We agree most emphatically with them in preferring the continuous to the interrupted current, as less likely to cause rupture of the sac.

Electrolysis of fibroids (which we believe should be relegated to experts) is fully dealt with in Chapter III., which is fully and clearly illustrated by no less than thirteen cuts, most of which are original.

Static electricity, the galvano-cauterization of cancer of the uterus, and the application of electricity to obstetrics are subjects which receive each a separate chapter—brief, but comprehensive.

The tone of the book, as we said at the outset, is moderate and far removed from pugnacity. The authors are well known to be men with positive opinions, yet these are nowhere presented in an offensive manner, and there is not a single sentence to which even the bitterest opponent of gynecological electro-therapeutics ought to take exception. The style, though condensed, is clear and forcible. There are no less than seventy illustrations, the majority new, and all well executed. Typographical errors are unusually few, and in its *tout ensemble* the work does great credit to the publishers.

The Philosophy of Tumor Disease: A Research for Principles of its Treatment. By C. Pitfield Mitchell, Member of the Royal College of Surgeons, etc. Pp. 263. London: Williams & Norgate. 1890.

This suggestive little book is in effect a careful study of the etiology of neoplasms, based upon a careful study of clinical facts. The conclusion of the introductory chapter is that "the process by which tumors are generated by the tissues is a process of asexual genesis conditional

upon the decline of tissue-vitality;" hence the corollary that "a tumor is a local disease—local by the derivation of its elements, and local by the conditions of the derivation."

Chapter II., on "Morphology," is an exposition of the subject, in which the author seeks to show that "neoplasia is a reversion to the genesis of unicellular organisms." We cannot, in the space allotted, follow the learned writer throughout a course of reasoning in which, with true Darwinian spirit, he generalizes only after having paved the way by a solid masonry of patiently collected facts; suffice it to say, that, unlike many theorists, he does not bend them to his own uses, but subjects them to a rigid analysis.

The chapter on "The Secondary Phenomena of Tumors" is devoted to the interpretation of the expressions "innocent" and "malignant" as applied to neoplasms. "Innocence," we read, "goes with mature development, malignancy with immature development in the cell-elements of tumors."

While the pathologist will be especially interested in the theoretical portion of the book, the practical deduction of the two concluding chapters are of great importance to the surgeon. Excision is the only treatment for malignant growths, and if practised early should be curative. "From the nature of cancers and sarcomas—being offspring of the tissues—their resolution by drugs given internally is not to be expected; nor is there good evidence that any attempt ever made to cure the disease in this manner has been availing." The doctrine of heredity is rejected as based on insufficient evidence. It must be confessed that the final chapter, on "Prophylaxis," is of necessity rather vague and unsatisfactory.

The Physical Diagnosis of the Diseases of the Heart and Lungs, and Thoracic Aneurism. By D. M. Cammann, B.A. Oxon., M.D., Attending Physician in Class of Heart and Lungs, Demilt Dispensary; Visiting Physician to the Orphans' Home and Asylum, etc. Illustrated. Pp. 188. New York and London: G. P. Putnam's Sons. Knickerbocker Press.

This little work is the study of physical diagnosis in a nutshell. It is unusually complete for so small a work, and, besides the bare details of the subject, contains an interesting study of the cause of râles; whether they arise in the lungs or pleura. The author, who is a most expert diagnostician, writes in a terse, pleasing, forcible manner. His arguments for the necessity of studying acoustics are convincing. The little book contains also the averages of the measurements of the heart by auscultatory-percussion from tables made by the author's father, the late Dr. G. P. Cammann, inventor of the binaural stethoscope. The figures have not heretofore been published in full.

A Guide to the Clinical Examination of Urine. By Farrington H. Whipple, A.B. Harv. Pp. 200. Boston: Damrell & Upham.

This little work is a condensation of larger works, and purports merely to present the subject in a more readily accessible and practical form. Busy practitioners haven't the time for the large works, and to them this admirable epitome will be of great service. The author writes well and shows clear discrimination in his choice of material. His application of urinalysis to diagnosis is unusually good.

Koch's Remedy in Relation Specially to Throat Consumption. By Lennox Browne, F.R.C.S. Ed., Senior Surgeon to the Central London Throat, Nose, and Ear Hospital; Author of "The Throat and Nose, and their Diseases," etc. Illustrated. Pp. 114. Philadelphia: Lea Brothers & Co.

This is a valuable addition to the already prolific literature on the subject of Koch's remedy. It is written in a calm, scientific way, and will do much to help decide the ultimate position of "tuberculin." Thirty-one cases of laryngeal tuberculosis, treated according to Koch's method, are presented, with the author's deductions. He considers the remedy of sufficient value to warrant him to persevere in its employment, "provided always that due caution be exercised not only in the selection of patients for its application, but also in every detail of its administration." There are fifty original engravings and diagrams, and the work is of value from other stand-points than the one concerning the Koch remedy.

Society Reports.

KENTUCKY STATE MEDICAL SOCIETY.

Thirty-sixth Annual Meeting, held at Lexington, Ky., May 27, 28, 29, 1891.

Address of Welcome. — An able address of welcome was made by Dr. David Barrow, chairman of the Committee of arrangements. The report of the treasurer, Dr. James B. Kinniard, of Lancaster, showed the finances of the Society on a sure foundation, and the report of the permanent secretary, Dr. Steele Bailey, of Stanford, showed that gentleman had been conducting his office with the usual ability and energy.

President's Address.—The address of the President, Dr. George W. Beeler, of Clinton, had strains of tenderness, humanity, sentiment, and poetry. McDowell, Jenner, Dudley, and Koch were given tributes, while Henry Clay was not forgotten.

The Reciprocal Relations of the Public and the Medical Profession was the subject of a popular address delivered by Dr. Lyman Beecher Todd, of Lexington. He told of the noble deeds of the noble medical profession of Kentucky. As a star of the first magnitude, shone the history of Ephraim McDowell. He paid a tribute to the memory of Mrs. Crawford, of Boyle County, Ky., who was the patient first operated on by McDowell. Her courage was wonderful, and the conversation between her and Dr. McDowell was repeated as it took place before the operation. He had nothing to offer her. No favorable case reports, no anæsthetic. He could only tell her that he had never done the operation before, had never seen or heard of its being done, had no instruments especially made for it, and could promise her nothing. He thought this woman was a wonder, and recommended that a monument be erected to her memory. The doctor then went on and described the great benefits resulting from abdominal surgery. He dealt of the treatment of the insane, and recommended women in charge of women's wards. His remarks were well chosen, well delivered, and especially well received.

The following ex presidents occupied seats on the platform: Drs. W. H. Wathen, J. A. Ouchterlony, and L. S. McMurtry, of Louisville; A. D. Price, of Harrodsburg; Pinckney Thompson, of Henderson; J. N. McCormac, of Bowling Green; C. H. Todd, of Owensboro; H. M. Skillman, and L. B. Todd, of Lexington.

The Officers Elected were as follows: *President*, Dr. Hawkins Brown, of Huestonville; *First Vice-President*, Dr. B. L. Coleman, of Lexington; *Second Vice-President*, Dr. John Young Brown, of Henderson; *Treasurer*, Dr. J. B. Kinniard, of Lancaster; *Board of Censors*, Drs. B. W. Stone, of Hopkinsville; Charles Mann, of Nicholasville, and S. W. Willis, of Winchester. Louisville was chosen as the place of the next meeting; time not decided on.

After a hot debate it was decided to publish a volume of transactions, and in consequence the membership fee was raised to three dollars per annum.

Vital Statistics of Kentucky was the subject of a paper by Dr. T. B. Greenley, of West Point, Ky. The doctor lamented the bad condition of affairs in this line in Kentucky, and queried how long it should be permitted to continue. He advocated burial permits, notification of contagious diseases, and registration of births.

Dr. J. N. McCormac, of Bowling Green, made a practical speech in accord with the paper read.

The Progress of Medicine was the subject of a paper by Dr. B. L. Coleman, of Lexington, in which the heredity of consumption was given prominence. The paper was discussed by Drs. Thompson, Larrabee, and Palmer.

Dr. Neet, of Versailles, offered a resolution urging the legislature to build an inebriate asylum.

Dr. Pusey, of Louisville, discussed the care of the insane in Kentucky, and criticised severely the overcrowded condition of the asylums.

A banquet was given by the Lexington and Fayette County Medical Society at the Phœnix Hotel, at which two hundred and fifty persons sat, most all being medical men. Dr. Henry Martin Skillman, of Lexington, presided in an elegant manner. The menu was an excellent one, and was completed before the toasts were begun. These were as follows: "The Ministry," by Rev. Dr. W. H. Felix, of Lexington; "Our Guests," by Dr. Charles H. Todd, of Owensboro; Hon. John Young Brown, of Henderson, Democratic candidate for Governor, spoke, on "Let Him who has Won the Palm Bear it;" "Our Ex-Presidents," by Dr. John A. Ouchterlony, of Louisville. "The Law" was to have been responded to by the Hon. W. C. P. Breckenridge, but he was prevented from being present by the sudden death of his cousin, Judge Samuel Breckenridge, while making a speech at the Presbyterian General Assembly, at Detroit, that same day. "The Medical Profession a Public Trust," was the subject by Dr. Joseph M. Matthews, of Louisville. Judge James H. Mulligan spoke wittily and well from the topic "Our Commonwealth." "The Ladies," was responded to by Dr. Orin B. Todd, of Eminence; "Medical Progress and Heroism," by Dr. Dudley S. Reynolds, of Louisville; "Our Medical Sisterhood," by Dr. A. M. Cartiledge, of Louisville.

A most enjoyable reception was given by the ladies of Lexington at the Phœnix Hotel, followed by a ball.

A dinner to doctors' wives was given by Mrs. Dr. B. L. Coleman, of Lexington, which was in opposition to the banquet to which the ladies were not invited, or rather crowded out by the men.

The Report on Abdominal Surgery was made by Dr. L. S. McMurtry, of Louisville. He thought the great advance in abdominal surgery has been made along the line of greater accuracy in diagnosis, earlier and improved operations, and a better selection of cases. A very important advance is the modern conception of peritonitis. Formerly the treatment commenced and ended in opium and poultices; now we know that when the disease is not traumatic it is septic. Idiopathic peritonitis is a myth. He advised the limitation of the curette, sound, and intra-uterine stem pessaries. He wished to show that peritonitis was not of itself a disease, but arose from infection through various channels.

Dr. Skinner did not think the sound necessary, that the organs of the pelvis should be replaced without the use of the sound.

Dr. W. H. Wathen, of Louisville, was pleased at the character of the report of Dr. McMurtry. The fault with the general practitioner is that he does not pay enough attention to the pelvic manipulation, and he frequently mistakes pelvic trouble for uterine, and he thus increases instead of allaying the trouble. If we use asepsis or antisepsis we will not have trouble after using the sound. If careful, intra-uterine application is not dangerous. Good pelvic work is one of the greatest triumphs of surgery. Bad pelvic work one of the stigmas. He uses antiseptics outside of the abdominal cavity, but none inside.

Dr. J. G. Carpenter, of Stanford, thought that the more the uterine sound was used the more patients there were for the abdominal surgeons. He thought the man who was able to diagnose could do it without the use of the sound.

Dr. J. N. McCormac, of Bowling Green, thought that the operation for appendicitis was very much abused. He cited the cases of two doctors. One was given up to die and not operated on. The other was not so bad and was operated on. The first recovered, the second died. Opening the abdomen is a very simple operation. Anybody can do it. It is the final results we want. He wished to enter his protest against reporting cases and omitting funerals.

Dr. E. R. Palmer, of Louisville, thought there was no term in medicine so much abused as that of thorough antiseptic precautions. He had seldom seen them.

Dr. A. M. Cartiledge thought general practitioners should be taught to do laparotomies, for they must do them sometimes.

Progress in Obstetrics was the title of a paper by Dr. Turner Anderson, of Louisville. He thought whatever of substantial progress could be, must be placed to the credit of antiseptic midwifery. Measures for the prevention of puerperal fever lead the van. The recent report of the Sloane Maternity shows only one death out of 1,000 deliveries, due to septicæmia. Since the introduction of antiseptics in midwifery the mortality has become almost *nil*. To place obstetrics in general practice on the same footing with these maternities is the great desideratum. To do this we must abandon auto-infection and acknowledge that puerperal infection is due to contagion from external sources. The doctor gave a detailed statement of the antiseptic rules observed at the Sloane Maternity. He considered the most essential item in the obstetrician's armamentarium a bottle of bichloride tablets.

Progress in Practical Medicine was the subject of a paper by Dr. B. L. Coleman, of Lexington. The doctor thought he could not better introduce his subject than by giving a short synopsis of the natural history of the micro-organisms on which the germ theory is founded. The Koch treatment of tuberculosis came in for a share of consideration. An important contribution to the study of cerebro-spinal meningitis is made by Fron and Uffreduzzi. They claim in every case to have found a micro-organism which they believe to be the essential factor in the disease, and which is called by them diplococcus lanceolatus. It is identical with the salivary septic microbe of Pasteur, Strassburg, and Klein, as also with the diplococcus pneumoniæ as described by Fraenkel. Very considerable progress has been made in the management of the gastro-intestinal diseases of children, viz., by irrigation of the stomach, dislodging the micro-organisms, and destroying with germicides or antiseptics. Salicylate of bismuth is a remedy growing in favor. The State has not been visited by any wide-spread epidemic during the past twelve months, except by la grippe. No treatment has probably surpassed acetanilide and salicylate of sodium, either combined or separate, followed by a few doses of quinine after the acute symptoms have subsided. Especially was this suitable in neuralgic and myalgic types of the disease.

The Treatment of Lupus by Methylene was the subject treated of by Dr. M. F. Croomes, of Louisville. He reported three cases which were successfully treated by from one to thirty applications. He used the application every morning, which formed a thin coating over the lupus. The patient was well in thirty-five days.

Rachitis Infantalia was discussed by Dr. J. A. Larrabee, of Louisville. He thought the ammoniated citrate of iron in a bitter infusion was better than the ingestion of phosphates. This disease is closely related to an acid condition of the prima via, and it is very necessary to correct this.

An interesting report on "Diseases of the Rectum" was made by Dr. J. M. Mathews, of Louisville. Report of "Brain Surgery" by Dr. W. L. Rodman, of Louisville.

The Significance of Wry-neck in Otitis.—Dr. Radsach says that wry-neck occurring during an attack of otitis media indicates the presence of mastoid disease.

INDEX.

A

Abscess, 579; chronic, of the abdominal wall simulating malignant intra-peritoneal tumor, 132; cold, treatment of, 204; of the liver, treatment of, 318; treatment of, 604.
Abortion, accidental, treatment of, 633; habitual, treatment of, 286.
Abdominal cavity, plugging the, 262.
Abdominal section, elevation of the pelvis in, 137.
Abdominal surgery, 634; modern, 65.
Abdominal tumor in a male, 232.
Abdominal viscera, relation of displacement of the, to pelvic disease, 636.
Abdominal wall, chronic abscess of the, simulating malignant intra-peritoneal tumor, 132.
Accomplice, an involuntary, 668.
Acetone-yielding substance in normal urine, 205.
Achorn, J. Warren, Koch's five original cases, 77.
Aconite poisoning, a case of, 521.
Adenitis, cervical, 148, 661.
Adhesions, pleuritic, frequency of, 293.
Advertising, doctors and, 192.
Africa, a new disease in, 683.
Air-thrombus, death from, 244.
Alabama, medical law in, 463, 491, 538; State Medical Association, 520.
Albany, typhoid fever in, 174.
Albumin in the urine, source and significance of, 207.
Albuminuria, in apparently healthy people, 578, 710; in apparently healthy people, and its relation to life insurance, 669; in children, 137; proteids found in the urine in, 167.
Alcohol, a counterblast to, 630; in candy, 576; physiological experiments on the effect of, 600; use of, 331.
Alcoholism, chronic, strychnine in the treatment of, 548.
Allen Charles W., tenement-house schools, 66.
Aloes, the Wiesbaden elixir of, 666.
Alumni Association of Charity Hospital, first anniversary dinner, 321.
Alumni Association of the Woman's Hospital in the State of New York, 115.
Amblyopia, alcoholic, and tobacco, 89.
American Academy of Medicine, 573.
American Anthropometric Society, 265.
American Electro-Therapeutic Association, 174.
American Medical Association, forty-second annual meeting, 540, 572, 577, 605, 633, 661.
American Medical Temperance Society, 515, 573.
American Nurses' Association, 175.
Ammonium hydrochlorate by inhalation in membranous croup, 427.
Amniotic fluid, origin of the, 12.
Amphitheatre operations, 151.
Amyl nitrite in chloroform poisoning, 399, 483.
Anæmia, iron in, 657; following post-partum hemorrhage, treated by intra-venous saline injection, 703; pathology, symptoms, and treatment of, 150; pernicious, in a young child, 410; syphilitic, 211.
Anastomosis, intestinal, for fistula, 652; intestinal, new technique for, 725.
Anatomical material, distribution of, 237.
Anatomy, expert evidence on, 461.
Anchylosis of the jaw, spring speculum for, 299.
Anderson, R. Harcourt, some of the dangers to which epileptics are exposed, 722.
Aneurism of the arch of the aorta, tracheal tugging as a pathognomonic sign of, 406; of the first two portions of the subclavian, operative surgical treatment for, 305, 325; of the ophthalmic artery, ligature of the carotid for, 78.
Angina pectoris, discussion on, 299, 412; prognosis of, 469.
Angio-lipoma of the face, 62.
Aniline dyes in inoperable cancer, 52, 240, 301, 358, 404, 473.
Aniline oil, injections of, in tuberculosis, 269.
Ankle, primary dislocation at the, 653.
Anodal diffusion as a therapeutic agent, 133; surgery by aid of, 358.
Anthrax, recovery following excision of, 597.
Anthropology among village people, 432.
Anthropometric Society, American, first autopsy of the, 575.
Antifebrin in hard and soft chancre, 371; small and frequently repeated doses of, in the treatment of high temperature in typhoid fever and phthisis, 428.
Antipyretics, 647.
Antipyrine, 195; in chorea, 289.
Antiseptic, a new, 603.
Antiseptic dressings used at Billroth's clinic, 484.
Antiseptics, chromatic, 52; in rhyme, 516.
Anti-smoking law of New York State, 239.
Ants, surgical use for, 124.
Aorta, aneurism of the arch of the, tracheal tugging as a pathognomonic sign of, 406; hysterical, 455.
Apomorphine as an antidote in poisoning by strychnine, 79.
Apoplexy, chronic sequences of an attack of, 177; ingravescent, 213.
Appendicitis, abscesses from rupture or ulceration of the gall-bladder simulating, 327; and pericæcal inflammation, 546; death in forty-two hours, 166; in the female, 347; medical treatment of, 330; pathology of, 179.
Appendix, vermiform, removal of, 357.
Aristol, therapeutic uses of, 605, 642.
Arkansas, medical legislation in, 603.
Arms, damage to the, at birth, 681.
Army medical appointments, examination for, 212.
Army medical life, reminiscences of, 169.
Army news, 34, 67, 92, 122, 152, 191, 219, 247, 301, 332, 387, 415, 436, 471, 499, 528, 555, 611, 640, 667, 695, 724.
Arrow-poison, African, 248.
Arsenic as a domestic poison, 577; brown pigmentation form, 262; do lobsters contain, 710; domestic poisoning by, 599; in wall-papers and clothing, 487.
Arterialization, defective, oxygen in, 78.
Artery forceps, a new, 498.
Arthritis, rheumatic and rheumatoid, 139.
Arthrogryposis, 276.
Ashmead, Albert S., racial immunity and inoculation, 67; scarlet fever and the immunity of the Japanese, 527; scarlet fever in Japan, 358.
Association of American Anatomists, 247.
Astasia-abasia, 261; in Graves's disease, 429.
Asthenopia, causes of, 179.
Asthma, a neurosis, 490; euphobia pilulifora in spasmodic, 578.
Athletics among women, 112.
Atomic weights, new table of, 248.
Atrophy, acute progressive muscular, 708.
Atropine, hypnotic action of, 683.
Aulde, John, aloes—a correction, 666; studies in therapeutics—antipyrin, 195.
Austin J. Edward, strangulated cæcal hernia, extra peritoneal—herniotomy, necessitating abdominal section—complicated by mitral and aortic insufficiency—recovery, 622.
Auvard's couvert, 720.
Azoospermia, 270.

B

Babcock, J. L., a case of primary dislocation at the ankle, 653.
Bacillary partnerships, 248.
Bacilli in the Talmud, 164.
Bacteria, literature of, 192; reproduction of, 275.
Bailey, E. P., death of, 658.
Bailey, W. W., ligature of the carotid artery for aneurism of the ophthalmic, 78.
Baillarger, Jules G. F., death of, 212.
Baird, George, shot by another physician, 321.
Baker, Charles H., a case of spurious membrana tympani, 623.
Balanitis, treatment of, 336.
Baldness, prevention of, 444.
Balfour, T. S., death of, 212.
Balneo-therapeutics and mechano-therapeutics in the treatment of chronic heart disease, 198.
Banister, J. M., two interesting eye cases, 478.
Barker, Fordyce, obituary of, 660; resolutions on the death of, 688, 712.
Barry, John H., two cases of trichinosis, 677.
Bassorin paste, 292.
Baths, public, 266, 494, 628.
Beattie, Matthew, the treatment of herpes zoster, 11.
Beauty as a means of health, 431
Belladonna in labor, 681.
Bellamy, Edward, death of, 151.
Ber-beri and rice, 388.
Berlin, a private polyclinic in, 630; letters from, 328. See inoculation experiments for tuberculosis in Berlin.
Bile, elimination of iron in the, 682; persistent reflux of, into the stomach, 274.
Bill, an old surgical, 218, 295.
Biological study and anti-vivisectionists in England, 687.
Black death in England, 27.
Bladder, bone in the, 120; calculi in dermoid of the, 36; hemorrhage of the, in pregnancy, 309; prominent muscular fibres in the, mistaken for calculus, 681; spontaneous access of bacteria to, and slight vesical incompetence, as causes of cystitis, especially in the female, 585; suture of the, 325.
Bleyer, J. Mount, the phonograph and the micro-graphophone as an assistant to medical and other sciences, 697.
Blood, amount of sugar in the, in disease, 13; differential diagnosis of diseases of the, 317; effect of certain substances on

the red corpuscles, 83; germicidal action of the, 218, 490, 693; living, action of, on bacteria, 14; of the insane, 317; physical and chemical changes in the, in disease, 168; practical aspects of coagulation of, 638; the, in pneumonia, 524; uric acid in the, 82.
Bodenhamer, William, reflections and observations upon the formation, structure, function, and pathology of fistulous tracks or sinuses, especially those which constitute anal and rectal fistulæ, and the tendency of such to spontaneous obliteration and cure, 254.
Body-snatching in West Virginia, 461.
Boils, abortion of, 456; treatment of, 625.
Bolling, W. H., death of, 538.
Bone, transplantation of, 221, 237.
Book Notices:
Account of the life and works of Maister Peter Lowe, the founder of the Faculty of Physicians and Surgeons, Glasgow, by James Finlayson, M.D., 324.
Advances in bacteriology, by R. Koch, M.D., 324.
Affections of the stomach and diseases of the male genital organs, by Dr. Alexander Peyer, 242.
Alcoholism in women, by Dr. Thomeuf, 28.
Anæsthetics, a discussion, by Dr. William Macewen and others, 324.
Aphorisms in applied anatomy and operative surgery, by Thomas Cooke, M.D., 714.
Artificial respiration, the theory and practice, by Benjamin W. Richardson, M.D., 147.
Atlas von Beleuchtungsbildern des Trommelfells, von Dr. Kurd Bürkner, 268.
Bacteriological technology, by Dr. C. J. Salomon, Sr, 147.
Baldness and grayness: their etiology, pathology, and treatment, by Dr. Tom Robinson, 604.
Biography of Ephraim McDowell, M.D., "the father of ovariotomy," by Mary Young Ridenbaugh, 177.
Cancer and its complications, by Charles Egerton Jennings, 324.
Causes and prevention of phthisis, by Arthur Ransome, M.D., 736.
Chronic bronchitis and its treatment, by William Murrell, M.D., 28.
Clinical study of diseases of the kidneys, by Clifford Mitchell, A.M., M.D., 241.
Clinical use of prisms and decentering of lenses, by Ernest E. Maddox, 464.
Colotomy, lumbar and iliac, with special reference to choice of operation, by Thomas Bryant, F.R.C.S., 145.
Compend of diseases of children, by Marcus P. Hatfield, 463.
Compend of gynæcology, by Henry Morris, 464.
Contribution to the natural history of scarlatina, derived from observations of the London epidemic of 1887–88, by D. Astley Gresswell, M.D., 714.
Cosmetics, a treatise for physicians, by Dr. Heinrich Paschkis, 242.
Description of the Johns Hopkins Hospital, by John S. Billings, M.D., 296.
Diabetes, its causes, symptoms, and treatment, by Charles W. Purdy, M.D., 714.
Dictionary of practical medicine, by various writers; edited by James Kingston Fowler, M.A., M.D., 28.
Different methods of lifting and carrying the sick and injured, by G. H. Darwin, M.D., 28.
Diseases of the digestive organs in infancy and childhood, with chapters on the investigation of disease, the diet, and general management of children, and massage in pediatrics, by Louis Starr, M.D., 714.
Diseases of the eye, by Edward Nettleship, F.R.C.S., 268.
Eighth annual report of the State Board of Health of the State of New Hampshire, 146.
Book Notices:
Electricity in the treatment of uterine tumors, by Thomas Keith and Skene Keith, 464.
Epilepsy: its pathology and treatment, by Hobart Amory Hare, M.D., B. Sc., 146.
Essentials of anatomy and manual of practical dissection, together with the anatomy of the viscera, by Charles B. Nancrede, M.D., 145.
Ether drinking, its prevalence and results, by Ernest Hart, 464.
Examinations by the State Board of Health of the water supplies and inland waters of Massachusetts, 1887–90, 735.
Familiar forms of nervous disease, by M. Allen Starr, M.D., Ph.D., 147.
Formulary of new remedies and new medicinal preparations, by H. Bocquillon-Limousin, 324.
Guide to the clinical examination of the urine, by Farrington H. Whipple, A.B., 736.
Handbook of Dr. Koch's treatment in tubercular disease, by Drs. Edward F. Grün and Walter D. Severn, 324.
Handbook of materia medica, pharmacy, and therapeutics, by Samuel O. L. Potter, A.M., M.D., 324.
Hepatitis and hepatic abscess: their etiology, diagnosis, and treatment, by G Harrison Young, 324.
Hereditary health and personal beauty, by Dr. John V. Shoemaker, 604.
Historical sketch of the University of Maryland School of Medicine, by Eugene Fauntleroy Cordell, M.D., 735.
Hystéropexie abdominale antérieure et opérations sur-pubiennes dans les rétrodéviations de l'uterus, par Marcel-Baudouin, 177.
Illustrated encyclopædic medical dictionary, by Frank P. Foster, 464.
Index-catalogue of the library of the surgeon-general's office, U. S. A. Authors and subjects, vol. xi., 96.
Influence of heredity upon alcoholism, by Paul Sollier, 145.
Insomnia and its therapeutics, by A. W. Macfarlane, M.D., 145.
"J. E. M." guide to Davos-Platz, by J. E. Murdoch, 463.
Koch's remedy, in relation specially to throat consumption, by Lennox Browne, F.R.C.S., 735.
Laboratory manual of pharmaceutical chemistry, by Oscar Oldberg, Pharm. D., and John H. Long, Sc.D., 241.
Latin grammar of pharmacy and medicine, by D. H. Robinson, Ph.D., 146.
Leçons sur les maladies du larynx, par le Dr. E. J. Moure, 146.
Lehrbuch der allgemeinen und speciellen pathologischen Anatomie für Aerzte und Studirende, von Dr. Ernst Ziegler, 463.
Manual of auscultation and percussion, by Austin Flint, M.D., LL.D., 268.
Manual of modern surgery, by John B. Roberts, A.M., M.D., 96.
Manual of the domestic hygiene of the child, for the use of students, physicians, sanitary officials, teachers, and mothers, by Dr. Julius Uffelmann, 604.
Manual of weights and measures, by Oscar Oldberg, Pharm.D., 241.
Massage of the abdomen, by Rubens Hirschberg, M.D., 145.
Medical diagnosis, with special reference to practical medicine; a guide to the knowledge and discrimination of diseases, by J. M DaCosta, M.D., LL.D., 96.
Medical News visiting list for 1891, 242.
Medical nursing; lectures delivered in the Royal Infirmary, Glasgow, by J. Wallace, 463.
Medical students' manual of chemistry, by R. A. Witthaus, M.D., 147.
Memorial sketches of Dr. Moses Gunn, by his wife, 208.
Book Notices:
Micro-organisms of the human mouth, by Willoughby D. Miller, D.D.S., M.D., 241.
Modern antipyretics, their action in health and disease, by Isaac Ott, M.D., 714.
Modern diagnosis of diseases of the stomach, by Dr. J. M. Purser, 604.
Morbid blushing: its pathology and treatment, by Harry Campbell, M.D., 28.
Nasal neurosis, by Granville McDonald, M.D., 147.
New-born infant: its physiology, hygiene, and nourishment, by Dr. A. Auvard, 147.
Ninth annual report of the State Board of Health of the State of New Hampshire, for the year ending October 31, 1890, 735.
New York charities directory, 268.
Ointments and oleates, especially for diseases of the skin, by John V. Shoemaker, A.M., M.D., 145.
Pasteur and rabies, by Thomas M. Dolan, M.D., 147.
Patient's record for the use of physicians and nurses, by Agnes S. Brennan, 267.
Pharmacopœia for diseases of the skin, by James Startin, 147.
Philosophy of tumor disease, by C. Pitfield Mitchell, 735.
Physical diagnosis and practical urinalysis, edited by John E. Clark, M.D., 242.
Physical diagnosis of diseases of the heart and lungs, and thoracic aneurism, by Donald M. Cammann, M.D., 736.
Post-graduate clinical charts, designed for use in hospitals and private practice, by Drs. William C. Bailey and J. H. Linsley, 604.
Post-mortems, what to look for, and how to make them, by A. H. Newth, 242.
Practical examination of the urine, by James Tyson, 464.
Practical guide to the demonstration of bacteria in animal tissues, by Dr. H. Kühne, 324.
Practical manual of gynecology, by G. R. Southwick, M.D., 714.
Practical treatise on electricity in gynecology, by Egbert H. Grandin, M.D., 735.
Practical treatise on impotence, sterility, and allied disorders of the male sexual organs, by Samuel W. Gross, A.M., M.D., LL.D., 268.
Present position of antiseptic surgery, by Sir Joseph Lister, F.R.S., 324.
Principles of surgery, by N. Senn, 464.
Proceedings of the National Conference of Charities and Correction at the seventeenth annual session held in Baltimore, Md., May 14–21, 1890, 241.
Progressive lessons in practical chemistry, by Henry Leffman, M.D., Ph.D., and William Beam, A.M., 296.
Rabies, by Louis Pasteur, 145.
Railway injuries, with special reference to those of the back and nervous system, in their medico-legal and clinical aspects, by Herbert W. Page, M.A., M.D., 735.
Railway Surgery, by C. B. Stemen, A.M., M.D., LL.D., 242.
Rheumatism and gout, by F. LeRoy Satterlee, M.D., 296.
Saunders's medical lexicon, by John M. Keating, M.D., 296.
Saunders's question-compends, Nos. 8 and 9. Essentials of practice of medicine, by Henry Morris, M.D. With an appendix on the examination of urine, by Lawrence Wolff, M.D., 146.
Saunders's question compends, No. 15. Essentials of the diseases of children, by William M. Powell, M.D., 146.
Science and art of obstetrics, by Theophilus Parvin, M.D., LL.D., 96.

Book Notices:
Stricture of the rectum, by Charles B. Kelsey, M.D., 145.
Suppuration and septic diseases, by W. Watson Cheyne, M.B., 147.
System of oral surgery: being a treatise on the diseases and surgery of the mouth, jaws, face, teeth, and associate parts, by James E. Garretson, A.M., M.D., D.D.S., 96.
Text-book of hygiene, by George H. Rohé, 463.
Text-book of materia medica for nurses, by Lavinia L. Dock, 267.
Text-book of practical therapeutics, with especial reference to the application of medical measures to disease, and their employment upon a rational basis, by Hobart Amory Hare, M.D., B.Sc., 96.
Thirteenth annual report of the State Board of Health of the State of Connecticut, for the year ending November 30, 1890, 735.
Time-relations of mental phenomena, by Joseph Jastrow, 267.
Transactions of the American Association of Obstetricians and Gynecologists, vol. iii., 714.
Transactions of the American Gynecological Society for the year 1890, 268.
Transactions of the American Orthopedic Association, vol. iii., 324.
Transactions of the Association of American Physicians, fifth session, 241.
Transactions of the eleventh annual meeting of the American Laryngological Association, 242.
Transactions of the Gynecological Society of Boston, new series, vol. i., 296.
Transactions of the Intercolonial Medical Congress of Australia, second session, 241.
Transactions of the Iowa State Medical Society for the year 1890, 735.
Transactions of the Medical Association of Georgia, forty-first annual session, 324.
Transactions of the Medical Society of the State of California, session of 1889, 242.
Transactions of the Medical Society of the State of Pennsylvania at its fortieth annual session, 242.
Transactions of the Mississippi State Medical Association for 1889, 464.
Treatise on the diseases of infancy and childhood, by J. Lewis Smith, M.D., 323.
Treatment of consumption by Koch's method, by E. A. Bridger, 464.
Treatment of epilepsy, by Dr. Ch. Féré, 324.
Treatment of ingrowing toe-nail, by Joseph Amiard, M.D., 28.
Treatment of syphilis of the nervous system, by Julius Althaus, M.D., 735.
Treatment of uterine affections by massage, by Dr. Eugene Arendt, 242.
Unsoundness of mind in its legal and medical considerations, by J. W. Hume Williams, 604.
Urinary disorders connected with the bladder, prostate, and urethra, by Reginald Harrison, F.R.C.S., 323.
Urine in neurotic disorders, by Dr. Alexander Peyer, 147.
Wood's medical and surgical monographs, 28, 145, 147, 242, 324, 464, 604, 736.
Workhouse and its medical officer, by Dr. Alfred Sheen, 324.
Boracic acid in constipation, 115; in tuberculosis, 116.
Borelli, Giambatista, death of, 212.
Bosnia, woman's hospital in, 713.
Bosworth, F. H., on certain hygienic measures in the treatment of catarrhal affections of the upper air-passages, 394.
Bradshaw lecture at the College of Surgeons, 65.
Brain, and spinal cord, relation of concussion of, to inflammatory and other morbid changes in these organs, 605; hemorrhage into the, 440; of Laura Bridgman, 627; operation for tumor of the centrum ovale, 178; pistol-shot wound of the, 61; some of the remote effects of injury to, in delivery, 577.
Braun, Carl Rudolph, death of, 517.
Breath, bad, 121.
Breech presentation, forceps in, 203.
Bridgman, Laura, the brain of, 627.
Briggs, Charles G., dislocation of the head of the ulna forward, without a fracture of the radius, 553.
Bright's disease, insanity as a symptom of, 428; of pregnancy, 1.
Bromide, ferric, 485.
Bromides, are they harmless? 719.
Bromidrosis of the feet, application for, 513.
Bronchial lymph nodes, hemorrhage into and around, 166; primary infection of tuberculosis in, in children, 186; tuberculosis limited to the, 270.
Bronchus, death from a cork in the, 539.
Brown-Séquard's fluid in tuberculosis, 144.
Brush, Arthur C., acute case of progressive muscular atrophy, 708.
Bryant, Joseph D., the operative surgical treatment for aneurism of the first two portions of the subclavian, 305, 325.
Bryce, P., care of the private insane, 33.
Bryonia, 574.
Bulkley, L. Duncan, on the causes of eczema, 395.
Bull, William T., on three cases of pylorectomy with gastro-enterostomy, 39.
Bunts, F. E., shock, 509.
Butter, the acid of, 321.
Byers, J. Wellington, the germicidal action of the blood, 218, 693.
Byford, Henry T., a third series of peritoneal sections, comparative study of one hundred and fifty-nine consecutive cases, 533.

C

Cabinet officer of public health, 685, 723.
Cady, George P., death of, 688.
Cæsarean section, 663; a primitive, 556; modern methods of performing, 470; post-mortem, 513.
Caffeine, hypodermic injections of, in post-partum hemorrhage, 13.
Calculus, biliary, 63; biliary, cholecystotomy for, 298; in dermoid growths of the bladder, 36; salivary, 117; vesical, prominent muscular fibres mistaken for, 681; vesical, some sources of error in sounding for, 111.
California, and old age, 170; Indians, diseases of, 104; medical legislation in, 240, 491.
Calomel habit, 513.
Calomel in the treatment of pneumonia, 653.
Camp, Nathan, death of, 379.
Camphoric acid and tellurate of sodium as antihidrotics, 568.
Camthey, Horace, Koch's lymph in Florida, 654.
Cancer, and pork-eating, 246; caustic treatment of, 269; micro-organism in, 20, 429; new "cures" for, 515; of the breast, causes of, 211; of the cervix uteri with co-existing pregnancy—vaginal hysterectomy recovery, 259; of the pylorus, operations for, 37, 39, 62; of the rectum, extirpation of, in two sitf tings, 206; of the stomach, the gastric functions in, 288; of the uterus, salol as a disinfectant in, 525; psorosperms in, 303; primary, of the lungs, 438; pyoktanin for, 52, 240, 301, 358, 404, 473.
Candy, alcohol in, 576.
Cannabis indica in colic of horses, 539.
Cannibalism, medical, 170, 331.
Cantharidate of potassium in tuberculosis, 293.
Cantharidin in pulmonary phthisis, 596.
Carbuncle, treatment of, 556.
Carotid artery, ligature of the, for aneurism of the ophthalmic, 78.
Cataract, use of platinum instruments in the extraction of, 179.
Catarrh, cure of, 181; naso-pharyngeal and gastric, mutual relations of, 674; of the upper air-passages, hygienic measures in the treatment of, 394.
Catheters, rubber, sterilization of, 403.
Cause of diphtheria in rural districts, 730.
Cautery, Paquelin, how to keep in good order, 248.
Cell, animal, chemistry of the, 544.
Centrum ovale, operation for tumor of the, 178.
Cerebellar hemorrhage with complete paralysis on the same side as the lesion, 118.
Cerebral injuries, sensory derangements following, 419.
Chamberlain, F. T., a case of cold abscess of the epiglottis, of probably four years duration, 427.
Chancre, antifebrin in, 371; excision of, in the preventive treatment of syphilis, 686; multiple, 560; of the fingers, 69; soft, grattage in the treatment of, 568.
Charities of New York City, 236; of New York State, 212.
Charity, medical, how ambitious doctors abuse, 694.
Cheap doctors, 693.
Cheesman, W. S., elbow-splint and shoulder-cap, combined, 10.
Chemiotaxis, a property of phagocytes, 485.
Chestnut leaves for ivy-poisoning, 35.
Chicago, a German medical college in, 518; a new medical society in, 360; Academy of Medicine in, 220.
Chichester, W. R., treatment of balanitis, 356.
Child, acquired syphilis in a young, 158; fracture of the neck of the femur in a, 165; pernicious anæmia in a young, 410; usually high temperature in a, 553; viable, born at six and a half months, 720.
Childbirth, daily discharge of watery fluid after, 664; damage to the arms at, 681.
Children, albuminuria in, 137; brains of feeble-minded, 403; cervical adenitis in, 148; diabetes mellitus in, 289; diagnosis of pulmonary cavities in, 234; hepatic cirrhosis in, 624; indican in the urine of, 233; Koch treatment of tuberculosis in, 59; malaria in, 383; nocturnal incontinence of, posture in the treatment of, 110; some points in the dietetic management of, 373; time of day when they are born, 704; tuberculosis in, 186; unfavorable action of Koch's method in the treatment of tuberculosis in, 500; young, stomach washing in, 205.
China, a medical college in the interior of, 350; prevailing fevers in, 668.
Chloasma in a hypospadiac, 564.
Chloral habitués, a home for, 658.
Chloralamid, how to give, 93.
Chloroform, amyl nitrite as an antidote to, 399, 483; and ether, deaths from, 606; danger of administering, near an open flame, 384; in tracheotomy, 318; narcosis, mortality from, 626.
Chlorosis, new theory of the pathology of, 176; treatment of, 286.
Cholecystotomy for biliary calculi, 298.
Cholera, Asiatic, in a dog, 388; discoverer of the bacillus of, 612; in Japan from 1884 to 1887, 276; in Syria, 210; in the Russian North Pacific, 295; sudden outbreak of, 302; vagus treatment of, 20.
Chorea, antipyrin in, 289; epidemic, 318; laryngeal, 526.
Choroid, double rupture of, below the optic papilla, 480; melanotic sarcoma of the, 478.
Churchill, Frank, hystero-neurosis and melancholia cured by trachelorrhaphy, 135.
Chyle, flow of, from the skin and kidneys, 488.
Chylothorax, 318.
Cigarette smoking, 655.
Cinchonidine sulphate in intermittent fever, 246.
Circumcision, cocaine in, 403; congenital, 21; painless, 78.
Cirrhosis, hepatic, in children, 624.

Cities, large, micro-organisms in, 191.
Cleaves, Margaret A., vesical hemorrhage in pregnancy, with report of a case, 309.
Cleveland, Clement, perineorrhaphy; a plea for immediate repair, with the description of a new method of suturing, 193, 213.
Climacteric period, heart disorders of women at the, 111.
Clinic, a private, in Berlin, 630; International, in Paris, 239; the Transfiguration, 66.
Cocaine by anodal diffusion, 358; habitués, a home for, 658; in circumcision, 403; in dental surgery, 526; in small-pox, 500; use of, in gynecological surgery, 663.
Cocoanut-water as a culture-fluid, 205.
Coddling, 667.
Cod-liver oil, inunctions of, 192; scarcity of, 434.
Coe, H. C., a case of chronic abscess of the abdominal wall, simulating malignant intra-peritoneal tumor, 132.
Cœliotomy for rupture of the parturient uterus, 663.
Coffee, action of, in bacteria, 360.
Coit, Henry L., an instrument for treating enlarged tonsils by electrolysis, 470.
Coles, Abraham, death of, 539.
College of Physicians and Surgeons, new departure of the, 208.
Collins, Joseph, a case of enteric fever with peculiarities, 356.
Comma-bacillus, discoverer of, 612.
Condurango and condurangin, 625.
Conjunctiva, hemorrhage from the, following the application of Credé's method in a new-born infant, 456.
Connecticut State Medical Society, centennial of the, 175.
Consanguineous marriages, a study of, 538.
Constantinople, opening of a large hospital in, 491.
Constipation, habitual, treatment of 82, 522; new remedy for, 115; voluntary, 556.
Contagious diseases, and funerals, 263; in New York City, weekly statement, 35, 68, 92, 123, 152, 191, 220, 247, 302, 332, 360, 388, 415, 444, 471, 499, 528, 555, 612, 667, 696, 724; in public and private schools, 292.
Cook, Avery, death of, 435.
Cord, trephining the, 234.
Cornell, Stanley S., the frequent localization of circumscribed pleuritis beneath the scapulæ, 417.
Corns, salicylic acid for, 49.
Coroner system in New York, 656; the, and the lymph, 172.
Coroner's juries, the value of, 535.
Coryza, treatment of, 436.
Cough, barking, of puberty, 138; its uses, significance, and indications, 336, 355.
Courtney, J. Elvin, case of traumatic epilepsy, 370.
Couvert, Auvard's, 720.
Cowdrey, Stevens G., death of, 265.
Cramps in the legs, viburnum for, 421.
Craniectomy for microcephalus, 232.
Craniotomy, linear, for defective mental development, 607.
Crater, Edward W., death of, 436.
Credé's method, conjunctival hemorrhage following the application of, in a new-born infant, 456.
Cremation, a British view on, 284.
Creolin, eczema from the use of, 49; in erysipelas and eczema, 235.
Crothers, T. D., institutions for drunkards, 245.
Croup, membranous, hydrochlorate of ammonium by inhalation in, 427.
Culture-fluid, cocoanut-water as a, 205.
Cure, an evidence of, 68.
Cures, modern discoveries of new, 537.
Curve of health, 291.
Cutter, George R., resolutions on the death of, 322.
Cystinuria, 371.
Cystitis in diabetes, 82; some causes of, in the female, 585.
Cystoscope, demonstration of a new, 384.
Cystoscopy, art of, and its uses, 209; progress of, in the last three years, 178.
Cystotomy, supra-pubic, 607; supra-pubic, how Lawson Tait does a, 610.

D

Da Costa, Dr., resignation of, from the Jefferson Medical College, 518.
Dale, W. W., death of, 295.
Damage cases, physical examination in, 380.
Dana, Charles L., the reality of rabies, 3.
Dandruff, cure of, 556.
Davis, William B., albuminuria in persons apparently healthy, and a consideration of its relation to life-insurance, 669.
Dawbarn, Robert H. M., a vegetable plate, also a new technique in intestinal anastomosis, 725; surgery by aid of anodal diffusion, 358.
Dead bodies, new process of preserving, 20.
Death, after a minor operation, 721; sudden, 265.
Deciduous man, a, 212.
Delirium, acute, hyperalimentation in, 136.
Dental practice, regulation of, in Connecticut, 175.
Dental surgery, cocaine in, 526.
Dentistry and syphilis, 570.
Derby, Richard H., successful effort to restore binocular vision by a partial tenotomy of the superior rectus, 567.
Dermatitis gangrenosa infantum, 562.
Dermatological practice, some unusual cases from, 559.
Dermatological uses, a new base for, 292.
Dermatologist, compensation for the, 17.
Dermoid cyst, 272; of the bladder, calculi in, 36.
Dessau, S. Henry, observations on rational therapeutics, 557.
Dewey, Richard, amphitheatre operations, 151.
Dexter, Ransom, death of, 434.
Diabetes, cystitis in, 82; mellitus, 481, 581; mellitus in children, 289; some chemical points in the treatment of, 496; three kinds of, 289.
Diarrhœa, chronic tropical, treatment of, 499.
Digestion in the small intestine, 626; the free acid of the gastric juice during, 83.
Diller, Theodore, a case of idiopathic spinal hemorrhage, 651.
Diphtheria, a protective against, 19; cause of death in, 514; etiology of, 445; hot dilute sulphurous acid in the treatment of, 402; methyl-blue in, 356; micro-organism in, 484; pathology of, 376; permanganate of potassium in, 682; pharyngeal, submucous injections in, 662; production of immunity from, 84, prophylaxis and treatment of, 136, 258, 661; recent contributions to the knowledge of, 577; submembranous medication in the treatment of, 219; sulphate of zinc in, 527; transmission of, from animals to man, 388; zinc sulphate in, 402.
Disease, a new, in Africa, 683.
Diseases, named for doctors, 290; prevailing in different countries, 555.
Disinfection, hints on, 524.
Dislocation, primary, at the ankle, 653.
Dispensary physician, responsibility of a, 459; question, the, 386, 470; the midwifery, 632.
Diuretin, 35.
Divulsion of urethral stricture, a new instrument for, 646.
Doctor, the village, 114
Doctors, and advertising, 192; cheap, 571.
Dodd, William S., pork-eating and cancer, 246.
D'Oench, F. E., a case of traumatic paralysis of the abducent and oculo-motor nerves, 402.
Domestic animals, studying disease in, 520.
Douches, alternating cold and hot, in the induction of premature labor, 682.
Drainage, in surgery, use and abuse of, 315; siphon, in empyema, 234; supra-pubic, 297.
Drainage-tubes, quill, 191, 248.
Drew, C., intestinal anastomosis in a youthful case of fecal fistula resulting from hernia, 652.
Drug eruptions, causes of, 288.
Drugs, impure, 138; regulating the price of, 556.
Drunkards, institutions for, 173, 245, 331.
Dubois, Coert, obituary of, 60.
Duboisine, hypnotic action of, 683.
Duncan, Mathews, honor to the memory of, 265.
Duodenum, ulcer of the, 496.
Dupon, F. S., permanganate of potassium as an application to the bites of poisonous insects, 36.
Durand, C. Ferdinand, swelling of the feet in warm weather, 554.
Duvall, Marius, death of, 265.
Dwelling-house in relation to tuberculosis, 667.
Dysentery, sulphate of magnesium in, 683.
Dysmenorrhœa, membranous, 120.
Dyspepsia, acid, 355.

E

Ear, chronic purulent disease of the middle, 465; disease, study of, in Vienna, 244; hook for the removal of foreign bodies from the, 528; improvement of hearing after removing the ossicles, 466; removal of foreign bodies from the, resulting in the cure of aural hallucinations, 680; traumatic occlusion of the external auditory meatus, 526.
Earache, treatment of, 428.
Eaton, F. B., fracture of base of skull, causing total paralysis of both sixth cranial nerves and partial paralysis of the sensory root of both fifth cranial nerves. Tenotomy—advancement of Tenon's capsule, 617.
Eczema, causes of, 395; creolin in, 235; from the use of creolin, 49.
Edebohls, George M., a self-retaining vaginal speculum for operations in the dorsal position, 283.
Edson, Cyrus, some questions about issues and setons, 457.
Education, medical, 236.
Eichberg, Joseph, a case of acute ascending paralysis—rapidly fatal issue, 226.
Einhorn, Max, a new method for direct electrization of the stomach, 529; Koch's method of treatment for tuberculosis, from personal observations in Berlin, 47; methyl-blue in malignant inoperable growths, 358.
Elbow splint and shoulder-cap combined, 10.
Electricity, adaptation of the Edison current to general office use, 720; anodal diffusion as a therapeutic agent, 133; as a therapeutic agent, 579; in incontinence of urine, 683; in the treatment of lupus, 426; in the treatment of menorrhagia and metrorrhagia, 216, 366; induced currents of, physiological and therapeutical properties of, 187, 201; static, new system of therapeutic administration of, 97; use of, in gynecology, 215.
Electrization of the stomach, influence of direct, upon gastric secretion, 677; of the stomach, new method for direct, 529.
Electro-cautery in surgery, with special reference to its use in the nose, mouth, and throat, 178.
Electrodes for use in rhinology and laryngology, 118.
Electrolysis in uterine fibroids, 635; instrument for treating enlarged tonsils by, 470; linear, in the treatment of stricture, 14; platinum needles for, 607.
Electro puncture in chronic hydrocele, 235.
Elliot, George T., some unusual cases from dermatological practice, 559.
Ellis, R., sexual education for the young, 497.
Ellis, R. C., nothing new under the sun, 527.
Embalming, proposed law on, 181; regulation of, 240.

Embryotomy of the living fœtus, is it justifiable? 641, 689.
Emmenagogue, indigo as an, 581.
Emphysema following rupture of the Eustachian tube, 524
Empyema, pathology of, 139; siphon drainage in, 234.
Endocarditis, tubercular, 207.
Endometritis, chronic, 580; chronic, is it dangerous to make local applications in, 274.
Endothelioma of the pleura, 271.
Enzymes, the, and Koch's discovery, 50.
Epididymis, cysts of, 288.
Epiglottis, cold abscess of the, 427.
Epilepsy, indications for trephining in, 31; Jacksonian, surgical treatment of, 178; traumatic, 370; traumatic, trephining for, 297.
Epileptic insanity, 719.
Epileptics, proposed colony for, 304; some of the dangers to which they are exposed, 722.
Epistaxis, McDowell's method of controlling, 81.
Epler, E. G., foreign body in the lung, 729.
Eruptions, drug, causes of, 288.
Erysipelas, creolin in, 235.
Erythema, relapsing desquamative, 563.
Ether, and chloroform, deaths from, 606; death following the administration of, 721; drinking in Michigan, 630; paralysis following hypodermic injection of, 266.
Eucalyptus drainage and malarial fever, 13.
Euphorbia pilulifera in spasmodic asthma, 578.
Euphorine, 137.
Eustachian tube, emphysema following rupture of the, 524.
Evans, Thomas R., is the contagion of typhus always imported? 639; was it enteric fever? 443.
Exophthalmic goitre, novel surgical treatment of, 174.
Exostoses, multiple cancellous, 439.
Expert evidence in anatomy, 461; suit for fees, 322.
Extra-uterine pregnancy, 629, 662.
Eye, diseases of the, hospital for contagious, 462; diseases of, hypodermic medication in, 107; optic neuritis following influenza, 683; strain, headache from, 179; traumatic paralysis of the abducent and oculo-motor nerves, 402.

F

Face presentations, posterior, treatment of, 664.
Families, opposition to large, 359.
Family, a large, 472.
Faradization, bipolar, 187, 201; for enuresis, 683.
Fat men's congress at Berlin, 53.
Father Mollinger's faith-cure, 730.
Faucial and pharyngeal tenesmus, 204.
Fears, morbid, and allied disorders, 404.
Fees, cutting down, 17, 19; for medical study in England and the United States, 517, 686; legislation to reduce, 323; medical, State regulation of, 265.
Feet, application for bromidrosis of the, 513; excessive sweating of the, zinc chloride for, 644; swelling of the, in warm weather, 554.
Fellowships, medical, in Harvard, 687.
Femur, differential diagnosis of dislocation and fracture of the neck of the, 302; fracture of the neck of the, in a child, 165; separation of the condyloid epiphysis of the, 11.
Fever in New York, four types of, 382.
Fevers, infectious, unity of, 239.
Fibroid tumors of the uterus, electrical treatment of, 635; operations for, 288.
Fibro-myoma, a large, 440.
Filth disease, what constitutes a, 624.
Fingers, chancres of the, 69.
Fischer, Louis, naso-pharyngeal catarrh a causative factor in gastric catarrh, 674; submembranous medication in the treatment of diphtheria, 219.
Fisher, William R., an epidemic of pneumonia and the calomel treatment of the disease, 653.
Fistulous tracks or sinuses, formation, structure, function and pathology of, 254.
Flat-foot, 137; painful, osteotomy for, 124.
Fœtus, living, is embryotomy of, justifiable? 641, 689; size of the, 122.
Food, curious, 124.
Foot-and-mouth disease, pyoktanin in, 683.
Forceps, a new artery, 498; anticraniotomy, advantages of, over version in pelvic deformities, 717; obstetrical, cases in which it is needed, 634; obstetrical, engagement of the child's arm in the fenestrum of the, 635; obstetrical, use of, in breech cases, 203.
Foreign bodies, in the bronchus, 539; in the ear, cure of aural hallucinations by removal of, 680; in the larynx, 709; in the lung, 729; in the nose, 729; in the nose, pneumatic method of removing, 93; in the stomach, "potato cure" for, 11, 218.
Forest, W. E., the relief of pelvic and abdominal pain by hot colon douches, 592.
Fracture, exploratory incision in cases of, when doubt exists as to their character, 607; massage in, 234; of the femur in children, perpendicular extension in the treatment of, 218; of the leg, non-operative treatment of delayed union in, 130.
France, dwindling population of, 320; dwindling population of, another explanation of, 651; dwindling population of, legislation respecting, 684; medical law in, 538.
Franklinic interrupted current, 97.
Fredericks, L. A., can the tubercle bacillus be destroyed by the pneumococcus? 695.
Freeman, Alpheus, the dispensary abuse, 470.
Fremitus, vocal, diagnostic value of, in pneumonia, 643, 723.
French, Gervis, death of, 713.
French Surgical Congress, 492, 603.
Friedreich's disease, treatment of, 629.
Funerals and contagious diseases, 263.
Funis, separation of from the child during parturition, 167.
Furuncle, how to abort a, 456; treatment of, 242.

G

Gall-bladder, abscesses simulating appendicitis from rupture or ulceration of the, 327.
Gall-stones, 63; frequency of perforation and peritonitis from, in old persons, 327; frequent, and hepatic colic rare, 214; sweet oil in the treatment of, 16, 693.
Gangrene, of the skin in an infant, 426; slow, 495.
Garrish, John P., death of, 435.
Gary, Thomas P. death of, 713.
Gastric juice, the free acid of, during digestion, 83.
Gastritis and pharyngitis, mutual relations of, 674.
Gastro-enterostomy rather than resection for cancer of the pylorus, 37, 62.
Gastrostomy, Hahn's method of performing, 373.
Gastrotomy, 178.
Genital organs, relation of affections of the male, to stomach disorders, 484.
Genito-urinary tract, primary tuberculosis of the, 119.
German Congress of Internal Medicine, 602, 632; Surgical Congress, 519.
Germicidal power of the blood, 218, 490, 693.
Gestation, ectopic, 629, 662.
Gleitzmann, J. W., experience with trichloracetic acid in two hundred cases of affections of the throat and nose, with demonstration of instruments, 312.
Gluck, Isidor, the treatment of an acute attack of hay fever, 564.
Glucose and iodine, advantages of combining, 679.
Goelet, Augustin H., the treatment of menorrhagia and metrorrhagia by the chemical galvano-caustic action of the positive pole, 366.
Goitre, exophthalmic, novel surgical treatment of, 174.
Gold and manganese, subcutaneous administration of, in the treatment of tuberculosis, 338, 354.
Gonococcus, medico-legal value of the, 234; recognition of, 317.
Gonorrhœa, acute anterior, 161; treatment of, 716.
Gonorrhœal salpingitis, 234.
Gordon, Bernard, two cases of imaginary poisoning, 654.
Graefe, Dr., the latest from Berlin, 59.
Grandin, Egbert H., is embryotomy of the living fœtus justifiable? 641, 689.
Graves's disease, astasia-abasia in, 429.
Gray, Landon Carter, hydrophobia, its clinical aspect, 6.
Griffin, Henry A., a case of hemorrhage into and around the bronchial glands, 166.
Grip, the. *See* Influenza.
Gulliver, George, death of, 212.
Gum arabic, scarcity of, 556.
Gundry, Richard, death of, 518.
Gynecologists of New York, a blessing upon, 668.
Gynecology, Chinese, 528; use of cocaine in, 663; use of electricity in, 215.

H

Hæmaturia with brief cerebral symptoms, 215.
Hæmoglobinuria and quinine, 388.
Hæmolymph glands, 416.
Hæmoptysis in apparently healthy persons, 167.
Hall, A. L., sensory derangements following intra-cerebral injuries, 419.
Hallucinations, cure of aural, by removal of foreign bodies from the ear, 680.
Hamilton, William D., stormy convalescence after removal of intra-abdominal tumors, 550.
Hammond, Græme M., astasia and abasia, with the presentation of a case, 261.
Harelip, new operation for, 547.
Hartnack, Edmund, death of, 294, 351.
Hartwig, Marcell, essential hydrops, 80.
Harvard medical fellowships at, 687; Medical Society of New York City, 265.
Haskell, C. N., the diagnostic value of vocal fremitus in pneumonia, 723.
Haslam, George, notes on acid dyspepsia, 355.
Hat, a medical, 294.
Havana, a Society of Hygiene in, 686.
Hawking, treatment of, 380.
Hay fever, treatment of an acute attack of, 564.
Hayne, Marcus S., death of, 460.
Hazen, Edward, death of, 240.
Headache from defective intra-tympanic aëration, 438; ocular, 179; classification of, 568.
Healey, James C., death of, 434.
Health, beauty as a means of, 431; State Board of, 52; the curve of, 291.
Health-officer in the cabinet, 685, 723; verdict against a, 379.
Heart, a visible, 207; disease of, chronic, balneo-therapeutics and mechano-therapeutics in the treatment of, 198; disease of, consequent on malarial fevers, 111; disease of, prognosis in, 468; disease of, with pulmonary œdema, relieved by oxygen inhalation, 483; disorders of, in climacteric women, 111; palpitation of, cold applications for the relief of, 204; rupture of the right ventricle, 621; structural diseases of the, considered from the point of view of prognosis, 412, 442; valvular disease of the, changes in the myocardium in, 254.
Hebrews in the United States, vital statistics of the, 171.

Hemianopsia, 389.
Hemorrhage into and around the bronchial glands, 166; post-partum, hypodermic injections of caffeine in, 13.
Henry, J. T., the calomel habit, 513.
Hernia, new method for the relief of, 84*a*; radical treatment of, 235, 547; strangulated extra-peritoneal cæcal, 622; strangulated, treatment of, when the intestine is gangrenous or ulcerated, 442; treatment of, with the hank truss, 616, 636.
Herpes zoster, treatment of, 11, 426.
Heteradelphia, a case of, 658.
Heteratopia of the spinal cord, 497.
Hip, disease of the, early resection or conservative treatment of, 606; first successful amputation at the, in America, 712; excision of the, 93; old traumatic dislocation of, new operation for, 320.
Hitchcock, Hiram H., death of, 461.
Hogeboom, Charles L., oil of peppermint in the treatment of grip, 483.
Holden, Edgar, an old story about a new syringe, 245.
Holt, A. F., death of, 19.
Holt, L. Emmett, cerebro-spinal meningitis in an infant due to the diplococcus pneumoniæ of Fraenkel and Weichselbaum, 43, 64.
Homœopathy in Russia, 144.
Hooper, Franklin H., a case of tumor of the larynx, showing amyloid degeneration, 285.
Hospital Graduates' Club, anniversary dinner of the, 658; internes and hysteria, 571; Sunday Association, the saloons and the, 140; superintendents, should they be physicians? 684, 711; system, private, 172.
Hospitals, compulsory treatment in, 152; large, disadvantages of, 115; superfluity of, 349.
Hot colon douches for the relief of pelvic and abdominal pain, 592; water as a remedial agent, 554.
Houston, D. W., urinalysis for sugar, qualitative and quantitative, 457.
Howe, John R., death of, 294.
Hubbard, Dwight L., hydrochlorate of ammonium by inhalation in membranous croup, 427.
Hubbard, George E., cheap doctors, 683.
Hunger and infection, 556.
Hunt, Sylvester H., death of, 538.
Hunterian Oration at the College of Surgeons, 329.
Huxley on the aim of life, 686.
Hydatid of the lung, 65.
Hydrocele, chronic, electro-puncture in, 235; treatment of, by carbolic acid *versus* the radical operation, 715.
Hydrocephalus, chronic external, 441.
Hydrogen peroxide, preservation of, 569.
Hydrophobia, a case of, 521; deaths from, 276; discussion on, 29; paralytic, suffered death from, 265; the clinical aspect of, 6; the reality of, 3.
Hydrops, essential, 79, 80.
Hygiene, a Society of, in Havana, 686; of our public schools, 211.
Hymen, imperforate, 136.
Hyperidrosis of the feet, chloride of zinc for, 644.
Hypnal, the new nervine, 8.
Hypnotic action of atropine and duboisine, 683.
Hypnotics, two new, 114.
Hypnotism in public, suppression of, 380.
Hypodermic injections, an improved syringe for, 190; antiseptic syringe for, 151.
Hypodermic medication in diseases of the eye, 107.
Hysteria, a suspected case of, in a man, 326; and hospital internes, 571; in the male, 675; traumatic, 179.
Hystero-neurosis and melancholia cured by trachelorrhaphy, 135.

I

Ice-cradle to reduce temperature, 294.
Ice-cream poisoning, 713.
Ichthyol, to mask the odor of, 444.
Idiocy, the professions and, 113.
Ileo-cæcal value, Pean's treatment of stricture of, 287.
Imber, Naphtali Herz, bacilli in the Talmud, 164.
Immigration and disease, 433, 434, 657.
Immunity, and phagocytosis, 485; racial, and inoculation, 67, 246.
Incontinence of urine, faradization in, 683; nocturnal, in children, posture in the treatment of, 110.
Incubator, Auvard's, 720.
Indians, medical attendance on the, 378; Northern California, diseases of, 104.
Indican in the urine of children, 233.
Indigo as an emmenagogue, 581.
Inebriates, State care of, 378.
Inebriety, narcotic, prevention of, 266.
Infant, gangrene of the skin in an, 426.
Infants, dress for, 662; insomnia in, 500.
Infarct of the placenta, white,
Infection and hunger, 556.
Influenza, among the Alaska Indians, 712; facts learned from last year's epidemic of, 374; immunity against, furnished by vaccination, 584; in Austria, 595; in Chicago, 519; in Japan, 264; in Russia, studies on the, 531; names of the, 459; pandemics of, 430; retro-ocular neuritis following, 683; treatment of, 444, 463, 483.
Ingrowing toe-nail, treatment of, 151.
Inhalation of tobacco smoke, 655.
Inoculation experiments in tuberculosis with Koch's lymph, 73, 578, 589; a large dose of tuberculin, 295; complications and dangers of, 44; delayed reaction from lymph, 143; direct application of the lymph to pulmonary cavities, 351; effects of, upon the sputum, 143; further contributions to the pathology of the lymph, 267; government control of the manufacture of parataloid, 211; in Chicago, 350; in Cincinnati, 321; in Berlin, 27, 47, 59, 293, 328; in Florida, 654; in London, 120, 188, 238, 243, 549, 609, 664; in New York, 21, 55, 86, 116, 249, 277, 282, 440, 450, 493, 690; in Spain, 322; in surgical tuberculosis, 211; in Vienna, 66, 244; official regulations concerning the sale of the lymph, 351; official report on, 405; pathological changes resulting from, 209; peptonuria after, 84*b*; progress of, abroad, 51; sale of the lymph in Berlin, 435; success of treatment dependent possibly on relation between the amount of tuberculous tissue and dose of lymph, 192; the composition of Koch's lymph, 84*d*; the lung from a case treated by Koch's lymph, 272; the lymph and its reactions, 84; value of the method, 545; varying strength of parataloid, 247, 438.
Inoculation, for lupus, death following, 21; racial immunity and, 67, 246.
Insane, blood and urine of the, 317; care of the private, 33; chronic, agricultural colonies for the, 123; commitment of the, 415; of New York State, 275; State care of the, 539; the law in relation to the, 489; voluntary patients in hospitals for the, 349.
Insane asylums, can the gynecologist aid the alienist in, 633.
Insanity, and murder, 349; as a symptom of Bright's disease, 428; definition of, 360; epileptic, 719; in criminal cases, 114; maniacal, relieved by trephining, 297; signs of, 208.
Insomnia in infants, 500.
Interdental pry, a modified, 274.
Intermittent fever, cinchonidine sulphate in, 246.
International clinique at Paris, 239.
International congress of microbes at Berlin, 68.
International Medical Congress, medal of the, 575.
Intestinal anastomosis for fistula, 652; anastomosis, new technique for, 725; atrophy, progressive, 204; obstruction, 83; surgery, use of the elastic ligature in, 546; worms, 471.
Intestine, small, digestion in the, 626.
Intra-abdominal tumors, stormy convalescence after the removal of, 550.
Intubation of the larynx, in an infant of ten weeks, 483; in Germany, 682; O'Dwyer's views on, 696.
Iodide of sodium, therapeutic value of, 470.
Iodine, and glucose, advantages of combining, 679; and the salicylates, antagonism between, as regards exudations and transudations, 206.
Iodism, prevention of, 632.
Iron, elimination of, by the bile, 682; in anæmia, 657; perbromide of, 485.
Issues and setons, 457.
Italian Hospital in New York, 53.
Ivy-poisoning, chestnut leaves for, 35.

J

Jackson, A. Wilbur, two typical cases of lupus treated with galvano-puncture, 426.
Jacobi, A., inoculations with Professor Koch's "tuberculin," 249, 277.
Jacques, Dr., death of, 378.
Japan, cholera in, from 1884 to 1887, 276; prevalence of the grip in, 264; scarlet fever in, 358; the medical profession in, 598.
Japanese, immunity from scarlet fever of the, 527.
Jaw, necrosis of, 661; recurring luxation of, 298.
Jews, vital statistics of American, 20.
Johns Hopkins Hospital, Historical Club at, 52; cost of the, 124.
Johnson, Alexander B., a case of anthrax—excision of infected tissue—recovery, 597.
Johnson, F. M., oxygen an adjuvant in defective arterialization, 78.
Johnson, Hosmer Allen, death of, 295; resolutions on the death of, 380.
Johnson, T. M., antipyretics, 647.
Johnston, W. H., is it dangerous to make local applications in chronic endometritis, 274.
Joints, expectant or operative treatment of tuberculosis of, 377.
Jones, Allen A., the influence of direct electrization upon gastric secretion, 677.
Jurisprudence, medical, notes in, 346.

K

Kakeles, M. S., a case of loose body in the knee-joint, with description of theories of origin, pathology, symptoms, and treatment of loose bodies in joints, 700.
Kammerer, F., report of three cases of nephrectomy, 368, 383.
Kaoumponli, 683.
Kava-kava, physiological action of, 403.
Kelly, J. D., hysteria in the male, 675; our mineral spring resources, 507.
Kelliher, M. W., a case of rabies, 521; a five-inch hair-pin in the posterior nares, 729.
Kentucky State Medical Society, 736.
Kerley, Charles G., severe catarrhal laryngitis, asphyxia, intubation, recovery in an infant aged ten weeks, 483.
Kerwin, M. H., death of, 322.
Ketch, Samuel, posterior rachitic curvature of the spine, 9.
Kidney, horseshoe, nephrectomy of one-half of a, 110; rupture of the, 214; scrofulous, 286; single, with acute interstitial nephritis and colloid carcinoma of the bladder, 495.
Kilmer, S. L., sulphate of zinc in diphtheria, 402.
Kingman, R. A., new uterine repositor, 34.
Kirch, G. W., the proposed Italian Hospital, 53.
Kirkendall, J. S., racial immunity and inoculation, 246.

Kissam, Philip Platt, death of, 712.
Kitchen, J. M. W., some comments on the present therapy of pulmonary consumption, 401.
Knee-joint, injury of the, 177; loose bodies in the, 700; sarcoma of the, 495.
Koch, lay comments on, 114; men who are working with, 54; relations of, to the German Government, 143.
Koch's discovery and the enzymes, 50; five original cases, 77; lymph inoculation. *See* Inoculation experiments for tuberculosis.
Kramer, S. P., Koch's lymph at the Good Samaritan Hospital in Cincinnati, 321.
Kretzschmar, Paul H., death of, 518.

L

Labor, belladonna in, 681; premature, new method of inducing, 681.
Lacing, tight, death from, 584.
Lancaster, C. C., death of, 212.
Langenbeck House, laying the corner-stone of the, 520.
Language, a pathological, 76, 245.
Laparotomy, after-treatment of cases of, 634; comparative study of one hundred and fifty-nine consecutive cases, 533; exploratory, in a case of tubercular peritonitis, 466; for rupture of the parturient uterus, 663; for tubo-ovarian disease, 678; ten selected cases of, 547.
Laryngeal chorea, 526.
Laryngitis, catarrhal, intubation for, in an infant of ten weeks, 483.
Larynx, foreign body in the, 709; removal of a large fragment of glass from, 478; tumor of, showing amyloid degeneration, 285.
Laughing-plant, 457.
Law, medical, in Alabama, 463, 491; the, and the insane, 489.
Lead-poisoning, 411, 413.
Leaming, James R., cough, its uses, significance, and indications, 336, 355.
Legislation medical, activity in, 433.
Leidy, Philip, death of, 520.
Leprosy in British Columbia, 407; in old age, 176.
Leszynsky, William M., some practical points in the diagnosis of tabes, and the significance of certain symptoms, 424.
Letter, from Berlin, 328. *See* inoculation experiments for tuberculosis in Berlin; from London, 65, 120, 150, 188, 243, 299, 329, 357, 411, 442, 468, 496, 549, 609, 638, 664; from Vienna, 217, 244.
Leucocytes, the work of, 486.
Leukæmia, pseudo-, 63.
Levis, Richard J., resolutions on the death of, 35.
Lewis, Daniel, notes on the therapeutic uses of aristol, 642.
Library, medical, New York State, 240, 433.
Life insurance, and eyesight, 535; physicians in relation to, 491; professional secresy and, 668; relation of functional albuminuria to, 669, 710.
Life, Huxley on the aim of, 686.
Ligature-box, a new, 122.
Lipoma, angio-, of the face, 62.
Liqueurs, dangers of, 174.
Literature, medical, abundance of, 50.
Litholapaxy, improvement of evacuators for, and the later developments of the operation, 361; one disadvantage of, 118.
Liver, cirrhosis of, in children, 624; malarial abscess of the, 322; surgery of the, 168, 357; treatment of abscess of the, 318.
Lobsters, do they contain arsenic? 710.
Lockwood, George Roe, purpura hæmorrhagica, 155.
Locomotor ataxia, points in the diagnosis of, 428.
Logan, Joseph P., death of, 659.
London, letter from, 65, 120, 150, 188, 243, 299, 329, 357, 411, 442, 468, 496, 549, 609, 638, 664.
Loomis, Alfred L., the New York Academy of Medicine—what it is and what it may be, 153.
Loomis, Henry P., report of a case of general tuberculosis treated with Koch's lymph, with autopsy, 282.
Lowry, Agnes, purpura hæmorrhagica, 551.
Lunacy bill, the new, 295
Lunacy Commission, work of the, 263; report of the, 275.
Lunacy not increasing in New York State, 173.
Lundy, Charles J., hypodermic medication in diseases of the eye, 107.
Lung, foreign body in the, 729; hydatid of the, 65; preservation of the elasticity of the, 118; primary carcinoma of the, 438; syphilis of the, 682.
Lupus, relationship of, to tuberculosis, 243; treatment of, by galvano-puncture, 426; treatment of, by Koch's method, 450, 493 *See* also inoculation experiments in tuberculosis; treatment of, by methylene, 737.
Lyle, Alexander, acquired syphilis in a child four years of age, probably as a result of rape, 158.
Lymph, animal *vs.* human, 240; Koch's, 84. *See* Inoculation experiments in tuberculosis; Koch's, and the coroner, 172.
Lymphadenitis, statistics of, 220.
Lymphangioma circumscriptum, 561.

M

McCabe, N., an apparent cure of acute pulmonary tuberculosis, 80.
McClure, W. J., death of, 141.
McDowell's method of controlling epistaxis, 81.
McFarland, W. C., death of, 332.
Macanley, Berkeley, a practical view of seasickness, 414.
Maghee, James M., abscess of the penis, complicating periurethritis, without perforation of the urethra, 622.
Magnetic healing, technique of, 144.
Maher, J. J. E., treatment of ingrowing toenail, 151.
Malaria and hepatic colic, relation between, 328; in New York, 381, 406; studies in, 579.
Malarial fever and eucalyptus drainage, 13; heart disease consequent on, 111.
Malays, black teeth of, 106.
Malpractice suit decided against the surgeon, 322.
Malthusianism, 407.
Mammary cancer, causes of, 211.
Mammen, E., nitrite of amyl in chloroform poisoning, 483; a case of laparotomy for tubo-ovarian disease, 678.
Manganese and gold, subcutaneous administration of, in the treatment of tuberculosis, 338, 354.
Manges, Morris, the quantitative estimation of sugar with Roberts' fermentation test, 505.
Mania, recurrent, 568.
Mann, F. P., advantages of combining iodine with glucose, 679.
Marine Hospital service, 142; new Surgeon-General of the, 713.
Marriage, the ideal Malthusian, 93.
Marriages, a study of consanguineous, 538.
Marshall, John, death of, 151.
Massachusetts, regulating the practice of medicine in, 436.
Massage in fractures, 234.
Mattison, Dr. J. B., hypnal, the new nervine, 8.
Maxilla, recurring luxation of, 298.
May, John Frederick, death of, 539.
"Medical and Surgical College of the State of New Jersey," resolutions of the Hudson County Medical Society concerning, 240.
Medical cannibalism *versus* professional honor and personal dignity, 273.
Medical co-education, 350.
Medical education, 236; an important reform in, 656; in England and America, comparative cost of, 517, 686.
Medical examinations in New York State, 600, 631.
Medical examiners, New York State Board of, 432, 433, 537.
Medical fellowships at Harvard, 687.
Medical jurisprudence, 159.
Medical legislation, activity in, 432; in Alabama, 463, 538; in Arkansas, 603; in France, 538; in New York in 1891, 582.
Medical men and the secular press, 467; in England, honors to, 121.
Medical practice, reciprocity in, 84*a*.
Medical profession in Japan, 598.
Medical Society of the County of New York, 140, 187, 269, 439, 467, 719; prize of the, 688.
Medical Society of the State of New York, 177.
Medical teaching, new era in, 173.
Medical women, ought they to marry? 711.
Medicine and money, 141; graduating age in, 378; should a poor man study, 169, 246, 301; the possibilities of, 333.
Medico-legal cases, 535, 674.
Meek, H., how Lawson Tait does a suprapubic cystotomy, 610.
Meierhof, E., a hook for the removal of foreign bodies from the ear, 528.
Melancholia, cured by trachelorrhaphy, 135; forms of, 178.
Membrana tympani, perforation of, 385; spurious, 623.
Meningitis, cerebro-spinal, in an infant, due to the diplococcus pneumoniæ of Fraenkel and Weichselbaum, 43, 64; epidemic cerebro-spinal, 578; micro-organisms in, 536; tubercular, following operation for osteitis of the shoulder, 272.
Menorrhagia and metrorrhagia, treatment of, by the chemico-galvano-caustic action of the positive pole, 216, 366.
Menstrual epoch, management of the, 12.
Menstruation, and ovulation, 579; in men, 212.
Mental development, defective, linear craniotomy, 607.
Mercury, absorption of, by a tape-worm, 472.
Methyl blue in diphtheria, 356; in therapeutics, 52, 240, 301, 358, 404, 473.
Methylene in the treatment of lupus, 737.
Metrorrhagia and menorrhagia, treatment of, by the chemical galvano-caustic action of the positive pole, 366.
Meyer, Willy, notes on the effect of the aniline dyes, especially the blue pyoktanin, in the treatment of inoperable malignant growths, 473; the treatment of inoperable malignant growths by the aniline dyes, 301.
Microcephalus, craniectomy for, 232.
Microcidine, 603.
Micro-organisms, action of infusion of coffee on, 360; action of living blood in, 14; and specifics, 206; (diplococcus pneumoniæ) in a case of cerebro-spinal meningitis in an infant, 43, 64; grouping of, 371; in cancer, 20, 429; in diphtheria, 484; in great cities, 191; in meningitis, 536; in syphilis, 575; industrial use of, 220; literature of, 192; typhoid and pseudo-typhoid, in river-water, 484.
Microscope lenses, improvement in, 604.
Middletown insane asylum, 265.
Milhau, John Jefferson, obituary of, 576.
Milk, blue, 205; fetid, in human mammary glands, 569; human, pathological variations of, 18; of the Egyptian buffalo, 188; predigested, sterilization of, 264; secretion of, in the new-born, 262; sterilization of, 608; sterilized, 409; sterilizing by peroxide of hydrogen, 276; sugarless, 631; tuberculous, experimental investigations with, 203.
Milk-diet, in scurvy, 286; overdone in typhoid fever, 373.

Milliken, S. E., the treatment of hernia by means of the hank truss, 616, 636.
Mineral springs, resources of American, 507.
Miracle, cure by, 598.
Miscarriage, retained placenta in, 581.
Mitchell, H. W., practical results of the operation for lacerated cervix uteri, 705, 717.
Mongols, medicine among the, 372.
Moor, William, the theoretically ideal remedy for pulmonary phthisis, 596.
Moore, George Everton, death of, 492.
Moore, James E., the use and abuse of drainage in surgery, 315.
Morgan, Ethelbert Carroll, death of, 544; obituary of, 576.
Morgue, proposed reorganization of the, 142.
Morphine by insufflation, 625.
Morrison, John J., interstitial placentitis, 709.
Mortality, in European armies, 152; in New York City in 1890, 115; influence of temperature upon, 320.
Morton, William James, the Franklinic interrupted current; or, my new system of therapeutic administration of static electricity, 97.
Mummifying, new process of, 20.
Murder and insanity, 349.
Myeloma, melanotic, 182.
Mynter, Herman, new staphylorrhaphy-needle, 387.
Myocardium, changes in the, in valvular disease, 254.
Myomatous tumors, 181.
"Mystic," the, and the "frank," 210.
Myxœdema, thyroid grafting in, 13, 235, 601, 625.

N

Naphthalin in typhoid fever, 578.
Narcotic inebriety, prevention of, 266.
Nasal snare, modification of a, 724.
National Association of Medical Colleges, 240.
National holiday and minor surgery, 710.
Naval medical service, 406.
Navy news, 35, 68, 92, 122, 152, 191, 247, 332, 388, 415, 436, 499, 528, 555, 611, 667, 695, 724.
Nephrectomy, 720; of one-half of a horse-shoe kidney, 110; report of three cases of, 368, 383.
Nephrolithotomy, 189.
Nephrotomy, 636.
Nerve-roots, excitability of, 316.
Neuralgia following fracture relieved by operation, 718.
Neurasthenia, 523.
Neurasthenic stigmata, 487.
Neuritis, orbital, 89.
Neuropathies, traumatic, 458.
New-born, secretion of milk in the, 262.
Newell, Otis K., amphitheatre operations, 77; quill drainage-tubes, 191; the improvement of evacuators for litholapaxy, and the later developments of the operation, 361; the treatment of urethral stricture, and a new divulsor for rapid dilatation, 645.
Newman, Alvah H., a case of acute anæmia from post-partum hemorrhage treated by intra venous saline injection, 703.
New York Academy of Medicine, 29, 89, 148, 325, 353, 381, 493, 689; section on general medicine, 31, 185, 354; section on genito-urinary surgery, 295; section on obstetrics and gynecology, 215, 384, 720; section on surgery, 61, 297, 636; what it is and what it may be, 153.
New York City, charities of, 236; mortality of, in 1890, 115; zymotic diseases in, 95.
New York County Medical Association, 385, 409, 526.
New York Pathological Society, 63, 118, 182, 270, 410, 440, 495.
New York State, charities of, 212; Medical Library of, 240, 433.
New York State Medical Association, Fifth District Branch, 715.
Nicaragua Canal Company's Hospital at Greytown, 53.
Nicholas, G. L., bacteriological report on a case of anthrax, 597.
Nomenclature, personal, in medicine, 290.
Nose and throat, experience with trichloracetic acid in two hundred cases of affections of the, 312; local treatment of diseases of, 422, 439.
Nose, a hair-pin in the, 729; congenital median furrow of the, 117; foreign bodies in the, pneumatic method of removing, 93; red, treatment of, 352.
"Not so bad as it seems," 443.
Noyes, Henry D., hemianopsia, 389.
Nurse, excessive punishment of a, for striking a patient, 656; the male, 655.
Nurses, registration of, in England, 189.
Nussbaum, a memorial to the late Professor, 686.

O

Oatman, E. L., aseptic tongue spatula, 311.
Obstetrical atmospheric tractor, 385.
Obstetrics, clinical teaching of, in America, 548; in the West, Winckel on, 20; statistics of, 630.
Obstruction, intestinal, 83.
O'Callaghan, T. A., post-mortem Cæsarean section, 513.
O'Dwyer's views on intubation, 696.
Œdema, acute circumscribed, 559.
Œsophagus, stricture of, loss of tube in, 383; stricture of, treatment by linear electrolysis, 14; varicose ulcer of the, 262.
Ogden Fred. N., hot dilute sulphurous acid in the treatment of diphtheria, 402.
O'Hanlon, Philip F., a complaint against the undertaker, 92.
Ointments, absorption of drugs in the form of, 283.
Old age, frequency of perforation and peritonitis from gall-stones in, 327; in California, 170; leprosy in, 176; points to be observed by elderly men, 14.
Olive-oil in the treatment of gall-stones, 693.
Operating, the time of day for, 54.
Operation, minor, death after a, 721.
Operations, amphitheatre, 77; curative effect of, *per se*, 636.
Ophthalmia, sympathetic, management of, 321; sympathetic, preventive treatment of, 235.
Ophthalmic artery, aneurism of the, ligature of the carotid for, 78.
Opiates in acute peritonitis, 613.
Opium, defending the use of, 683; habitués, a home for, 658; traffic in India, 497.
Orbital neuritis, 89.
Orexin, experiments with, 13.
Osteitis of the shoulder, tubercular meningitis following operation for, 272; tubercular, of the femur, 272.
Otitis, chronic purulent, 465; early treatment of, 189; media, abscess of the temporo-sphenoidal lobe secondary to, 183.
Ovarian disease, laparotomy for, 678.
Ovaritis, chronic, pathology and treatment of, 663.
Ovary, papilloma of the, developing soon after laparotomy, 215.
Overall, G. M., painless circumcision, 78.
Ovulation and menstruation, 579.
Owings, John H., separation of the condyloid epiphysis of the femur, 11.
Oxalemia, 206.
Oxaluria, 49.
Oxygen, hypodermic injection of, 84 *c*; inhalations of, in defective arterialization, 78; inhalations of, relief of heart-disease with pulmonary œdema by, 483.

P

Pachymeningitis hæmorrhagica, 441; interna, 64.
Pahl, B. M., death of, 379.
Pain, relief of pelvic and abdominal, by hot colon douches, 592.
Palpitation, cold applications for the relief of, 204.
Pan-American Medical Congress, 460, 573.
Papillitis, 89.
Papilloma of the ovary developing soon after laparotomy, 215.
Paquelin cautery, how to keep in good order, 248.
Paralysis, acute ascending, 226; for hypodermic injection of ether, 266; periodic, 525; traumatic, of the abducent and oculo-motor nerves, 402.
Paranoia recurrens, 568.
Parataloid, 142; injections of, see Inoculation experiments for tuberculosis.
Paris, practitioners in, 435.
Parker, Charles T., death of, 408.
Parrish, Joseph, death of, 141.
Parturition, unconscious, 144.
Patella, luxation of, 298.
Patent medicines and food products, American, in Europe, 536.
Patents for dental work, 92.
Pathologist, the day of the, 628.
Peck, F. H., practical notes on the prophylaxis and treatment of diphtheria, 136.
Pelvic and rectal diseases in woman, association of, 721.
Pelvic disease, relation to displacement of the abdominal viscera to, 636.
Pelvic inflammation in women, 180; joint reflexes following, 548.
Pelvis, elevation of, in abdominal section, 137.
Penis, abscess of the, complicating periurethritis, without perforation of the urethra, 622; percussion reflex of the, 115.
Pennsylvania pharmacy law, 471.
Peppermint oil in the treatment of grip, 483.
Pericardium, tuberculosis of the, 63.
Perineal structures, restoration of the, 662.
Perineorrhaphy, 193, 213.
Perineum, location of the, 353.
Periodic paralysis, 525.
Peristalsis, observations on, 372.
Peritoneal section, comparative study of one hundred and fifty-nine cases, 533.
Peritonitis, acute, opiates in, 613; acute general suppurative, operative procedures in, 178; experimental, 286-680; from a surgical stand-point, 605; opiates in the treatment of, 613, 716; tubercular, exploratory laparotomy in, 466.
Permanganate of potassium in bites from poisonous insects, 36, 274; in diphtheria, 682.
Peroxide of hydrogen as a disinfectant, 439; preservation of, 569; sterilizing milk by, 276.
Perry, Gideon B., death of, 53.
Personal nomenclature of disease, 319.
Pertussis, treatment of, by atomization, 676.
Pes planus, 137.
Peterson, Frederick, a further study of anodal diffusion as a therapeutic agent, 133.
Phagocytosis and immunity, 484.
Pharyngeal and faucial tenesmus, 204.
Pharyngitis and gastritis, mental relations of, 674.
Phelps, A. M., a new artery forceps, 498; transplantation of tissue from lower animals to man; and a report of the case of bone-transplantation at Charity Hospital, Blackwell's Island, N. Y. 221.
Phillips, Wendell C. some points on the local therapeutics of diseases of the nose and throat, 422, 439.
Phonograph and micro-graphophone in medical and other sciences, 526, 697.
Phtheiriasis, quassia for, 49; remedy for, 351.
Phthisis, pronunciation of the word, 322; pulmonalis, and the bacillus, 237; cantharidin as the theoretically ideal remedy for, 596; its classification, early diagnosis, and relations to chronic pneumonia, 185; prophylaxis of, 580, 627; treatment of, by Koch's method, *see* in-

oculation experiments in tuberculosis; treatment of, by compressed air and creasote, 687; treatment of, by transfusion, 322; treatment of high temperature in, by small and frequently repeated doses of antifebrin, 428.
Physician, the working, a vital question for, 91.
Physicians' Mutual Aid Association, 142;
Physicians' mutual protective associations, 113.
Pigmentation, brown, from arsenic, 262; in pregnant women, treatment of, 556.
Pilocarpine in pneumonia, 652.
Pisko, Edward, the "potato cure" for foreign bodies in the stomach, 11.
Placenta, retained, in miscarriage, 581; white infarct of the, 681.
Placenta prævia centralis with transverse presentation, 81.
Placentitis, interstitial, 709.
Platinum instruments, use of, in the extraction of cataract, etc., 179.
Pleura, calcareous degeneration of the, 289; endothelioma of the, 271.
Pleuritic adhesions, frequency of, 293.
Pleuritis, circumscribed, frequent localization of, beneath the scapulæ, 417.
Pneumococcus, antagonism of, to the tubercle bacillus, 695.
Pneumonia, abortion of, 512, 665; an epidemic of, 653; calomel in, 653; lobar, with the production of connective tissue in the air-spaces, 181; pilocarpine in, 652; the blood in, 524; the diagnostic value of vocal fremitus in, 643, 723; treatment of, 348, 580; treatment of the first stage of, 577.
Poisoning by aconite, a case of, 521; by salol, 687; imaginary, 654; wholesale, of a wedding party, 574.
Poison-proof animals, 470.
Poisonous insects, permanganate of potassium in bites from, 36.
Politzerization, 287.
Polyclinic, a private, in Berlin, 630.
Poor man, should a, study medicine, 169, 246, 301.
Porcher, F. Peyre, the epidemic of la grippe, 444.
Pork, eating of, and cancer, 246; examination of salted, 18.
Portugal, medical teaching in, 141.
Post, Sarah E., a case of hysterical aorta, 455.
Post-Graduate Medical School, annual dinner of the, 573; in Brooklyn, 53.
Post-partum hemorrhage, hypodermic injections of caffeine in, 13; treatment of acute anæmia after, by intra-venous saline injection, 703.
Potato treatment of foreign bodies in the stomach, 11, 218.
Pott's disease, necrosis of the ribs complicating, 178.
Powder-marks, absence of, no evidence against suicide, 36.
Powers, Charles A., a modified interdental pry, 274.
Practitioners' Society of New York, 117, 213, 326, 437, 465.
Præ-dormitium, sensory shocks of the, 17.
Pratt, Ambrose, death of, 713.
Preaching and practice, 172.
Pregnancy, Bright's disease of, 1; duration of, 373; extra-uterine, 662; extra-uterine, treatment of, 629; is the urine poisonous during? 302; vesical hemorrhage in, 309; vomiting of, 673.
Pregnant women, treatment of pigmentation in, 556.
Prescriptions, percentages on, 656; ownership of, 515.
Presentations, posterior face, treatment of, 664.
President, the, and the Queen, 571.
Press, secular, medical men and the, 467.
Prettyman, J. S., the rheumatoid condition, 649; tuberculosis is incurable, 218.
Preventive medicine, an institute of, 293, 380.
Prison labor, 159.
Prize of the Medical Society of the County of New York, 688; of the Paris Academy of Medicine, 53; the John Parkin, of the Royal College of Physicians of Edinburgh, 408; the Ricard, 142, 239; the Warren triennial, 212.
Probe, a telephonic, improvised from the telephone receiver, 61.
Proben, Charles J., placenta prævia centralis with transverse presentation, 81.
Professions, the, and idiocy, 113.
Progressive muscular atrophy, acute, 708.
Prostate, and seminal vesicle, tuberculosis of the, 411; removal of the hypertrophied median lobe of the, 297.
Prostatitis, acute, and prostatic abscess, 715.
Prostitution, protest against licensed, 729; regulation of, 375.
Prudden, T. Mitchell, cerebro-spinal meningitis in an infant due to the diplococcus pneumoniæ of Fraenkel and Weichselbaum, 43, 64; studies in the etiology of diphtheria—second series, 445.
Prussic acid, action of, in pulmonary tuberculosis, 568.
Pruyn, Peter V. S., obituary of, 576.
Pseudo-leukæmia, 63.
Psoriasis, syphilitic palmar, treatment of, 597.
Psorospermosis, 206.
Psorosperms in cancer, 303.
Pterygium, extreme cases of, 536.
Puberty, barking cough of, 138.
Puerperal convulsions, prevention of, by induction of premature delivery, 547.
Puerperal fever, tape-worm as a cause of, 176.
Puerperal period, the emotional element in, 181.
Pulse-rate, annual variations of the, 713.
Purpura hæmorrhagica, 155, 551; rheumatica, 15.
Pus-corpuscles, structure of, 272.
Pylorectomy with gastro-enterostomy, 39.
Pyoktanin in foot-and-mouth disease, 683; in therapeutics, 52, 240, 301, 358, 404, 473; to remove the stains of, from the hands, 472.

Q

Quack, misfortunes of a, 173.
Quack remedies, religious advertising of, 276.
Quackery, temptations to, 696.
Quarantine, at New York, 350; at Philadelphia not to be moved, 176.
Quassia for phtheiriasis, 49.
Queen, the, and the President, 571.
Quimby, C. E., the treatment of pulmonary tuberculosis by Koch's method, 73.
Quinine, a new substitute for, 599; and hæmoglobinuria, 388; artificial, 631; to disguise the taste of, 205.
Quinlan, Francis J., a case of convergent squint corrected by Adam's modified operation for deflected septum, 617.
Quintard, Edward, the Transfiguration clinic, 66.

R

Rabies, a case of, 521; deaths from, 276; discussion on, 29; paralytic, supposed death from, 265; the clinical aspect of, 6; the reality of, 3.
Rachitis, treatment of, 737.
Racial immunity and inoculation, 67.
Radius, refracture of the, 298.
Railway sanitation, 141.
Railway surgeons, question as to the ethical standing of, 542.
Railway surgery, 177.
Rand, J. P., the diagnostic value of vocal fremitus in pneumonia, 643.
Ransom, Charles C., removal of a large fragment of glass from the larynx after lodgment for twenty-one months, 478.
Ransom, W. J., apomorphine as an antidote for poisoning by strychnine, 79; essential hydrops, 79.
Rectal and pelvic diseases in woman, association of, 721.
Rector, Pierson, death of, 142.
Rectum, carcinoma of, extirpation of, in two sittings, 206; stricture of the, 543.
Reflexes, joint, consecutive to pelvic inflammation, 548; penis percussion, 115.
Respiration, forced, 545.
Respiratory movements and the anatomy of the thorax, 437.
Retinol, properties of, 287.
Reunion of severed parts, 93.
Review, an interesting, 113.
Reyher, Charles, death of, 435.
Rheumatic and rheumatoid arthritis, 139.
Rheumatoid condition, the, 649.
Rhinitis, chronic atrophic, cured by inoculation with gonorrhœal pus, 497.
Ribs, necrosis of, complicating Pott's disease, 178.
Rice, Clarence C., lupus of the nose and throat—demonstration of cases under the Koch method of treatment, 450; the etiology of the disease known as suppurative tonsillitis and its surgical treatment, with remarks concerning the prevention of inflammatory disorders of the tonsils, 125.
Ridlon, John, the non-operative treatment of delayed union in fractures of the leg, 130.
Riley, Henry A., interesting medical cases, 535; medical jurisprudence, 159; notes in medical jurisprudence, 346; recent cases in the courts, 674.
Ringworm, treatment of, 204.
Roberts' fermentation test for the quantitative estimation of sugar, 505.
Roberts, Walter T., gangrene of the skin in an infant, 426.
Rockwell, A. D., the different physiological and therapeutical properties of the induced currents of electricity, with special reference to bipolar faradization, 187, 201.
Rodgers, Harris C., a definition of insanity, 360.
Roskoten, Oliver J., aborting pneumonia, 512.
von Ruck, Karl, a contribution to the clinical uses of Professor Koch's remedy for tuberculosis, 589; delayed reaction from lymph, 143.
Russia, adoption of the decimal system in, 559; homœopathy in, 144.
Ryerson, G. Sterling, extreme cases of pterygium, 536.

S

St. Petersburg, insalubrious condition of, 472.
Salicylates and iodine, antagonism between, as regards exudations and transudations, 206.
Salicylic acid for corns, 49.
Salol as an antiseptic in cancer of the uterus, 525; death after a dose of, 687; in enteric fever, 266; in typhoid fever, 612.
Salpingitis, gonorrhœal, 234.
Salpingocele, femoral, 12.
Sanitation, in the West, 539; railway, 141; ship, 696.
Sanity and insanity, signs of, 208.
Santoninoxime, 332; as a vermifuge, 205.
Saphena vein, ligature of, in cases of varicose veins, 567.
Sarcoma, colloid, weighing thirty pounds, 384; melanotic, of the choroid, 478; of the knee, 495.
Scarlet fever, immunity of the Japanese from, 527.
Scarlatina, in Japan, 358; the fever in, 36; the tongue in, 569; without pyrexia, 204.
Schmid, H. Ernest, treatment of whooping-cough by atomization, 676.
Schools, contagious diseases in, 292; in tenement houses, 66; public, hygiene of, 211.
Schott, Theodor, balneo-therapeutics and mechano-therapeutics applied to the treatment of chronic heart disease, 198.

de Schweinitz, G. E., a case of persisting hemorrhage from the conjunctiva of a new-born infant, following the instillation of a solution of nitrate of silver, 456.
Sciatica, traumatic, cured by removal of a spiculum of bone from the edge of the great sacro-sciatic foramen, 82.
Scrofuloderma, 288.
Scurvy, milk diet in, 286.
Sea-air, salts of the, 680.
Sea-sickness, 15; practical view of, 414.
Semen, microscopical examination of, 317.
Semilunar ganglia, removal of, through the floor of the cranium, 606.
Sensory derangements following intra-cerebral injuries, 419.
Sensory shocks of the præ-dormitium, 17.
Septum, deflected nasal, convergent squint corrected by Adam's modified operation for, 617.
Setons and issues, 457.
Sexes, co-education of the, 19, 53.
Sexton, Samuel, some remarks on the early treatment of otitis, 189.
Sexual education for the young, 497.
Sexual function, some facts about the, 570.
Sexual perversion, 629.
Sexual precocity, 574.
Ship sanitation, needed improvement in, 696.
Shock, 509.
Shoulder-cap and elbow splint combined, 10.
Shoulder-joints, simultaneous dislocation of both, 36.
Siegfried, C. A., studies on the influenza as occurring in Russia, 531.
Sinkler, Wharton, sulphate of cinchonidine in intermittent fever, 246.
Sinus, lateral, thrombosis of the, 465.
Sinuses, formation, structure, function, and pathology of, 254.
Skin, annual shedding of the, 212; transplantation of, the finger as a medium for, 117.
Skin-grafting, Thiersch's, 383.
Skull, fracture of the base of the, causing total paralysis of both sixth cranial nerves and partial paralysis of the sensory roots of both fifth cranial nerves, 617.
Sleep, sensory shocks preceding loss of consciousness in, 17.
Slocum, Charles E., an old surgical bill, 218, 295.
Small, J. W., abortion of pneumonia, 665.
Small-pox, cocaine in, 500.
Smith, Andrew H., is parataloid of uniform strength? 247; relation between the amount of tuberculous tissue and dose of the lymph in the Koch treatment, 192.
Smith, Frank Fremont, the latest development of the lymph treatment in Berlin, 27.
Smith, George K., the treatment of herpes zoster, 426.
Smith, Gouverneur M., an international congress of microbes at Berlin, 68.
Smith, Joseph T., diabetes mellitus, 481.
Smith, Stephen, opiates in acute peritonitis, 613, 716.
Smith, William M., variola on the Scotia, 610.
Snake bite, cure of, by injection of mongoose blood, 683; strychnine in, 683.
Snare nasal, modification of a, 724.
Society of the Alumni of Bellevue Hospital, 573.
Sore-throat, hot claret as a gargle in, 355.
Spatula, aseptic tongue, 311.
Specialism, Dr. Holmes on, 303.
Speculum, self retaining vaginal, for operations in the dorsal position, 283.
Spinal cord disease, a new type of, 516.
Spinal hemorrhage, idiopathic, 651.
Spine, posterior rachitic curvature of the, 9; results obtained by the application of heat and cold to the, 269.
Spleen, abscess of the, 579; enlarged, local treatment of, 168; fatal rupture of the, 416; removal of, after gunshot wound, 383.
Sprague, W. B., death of, 378.
Sprains, treatment of, 607, 625.
Spratling, W. P., aural hallucinations cured by removal of foreign bodies from the ear, 680; should a poor man study medicine, 246.
Squint, convergent, corrected by Adam's modified operation for deflected septum, 617.
Squire, C. L., rupture of the right ventricle, death in twenty-five hours—autopsy, 621.
Stanton, Joshua Otis, death of, 461.
Staphylorrhaphy needle, a new, 387.
Stark, Henry S., acute anterior gonorrhœa, the indications for, and rational methods of, treatment, 161.
Sterilization of milk, 608.
Sterling, Elisha, death of, 240.
Stevens, Henry W., death of, 265.
Stickler, Joseph William, a consideration of Professor Koch's method of treating pulmonary tuberculosis; some of the complications apt to arise, some of the dangers to be apprehended, 44.
Stigmata, neurasthenic, 487.
Stimulants, need of stronger, 490.
Stocking, S., death of, 659.
Stomach, cancer of, the gastric functions in, 288; cancer of the pylorus, operations for, 37, 39, 62; new method for the direct electrization of the, 529; persistent reflux of bile into the, 274; relation of disorders of the, to affections of the male genital organs, 484; why self-digestion does not occur, 289.
Stomach-washing in very young children, 205.
Stone in the bladder, some sources of error in sounding for, 111.
Stricture, intestinal, secondary to strangulation in a hernial sac, 497; rectal, 543; spasmodic, of the female urethra following labor, 547; traumatic resection of the urethra for, 220; urethral, rapid dilatation for, 178; urethral, treatment of, 582; urethral, the treatment of, and a new divulsor for rapid dilatation, 645; urethral, treatment of, by linear electrolysis, 14; urethral, treatment of organic, 625.
Strychnine in the treatment of chronic alcoholism, 548; in the treatment of snake-bite, 683; poisoning by, apomorphine as an antidote in, 79.
Study, Joseph N., appendicitis—death in forty-two hours, 166.
Subclavian artery, aneurism of the first two portions of the, operative surgical treatment for, 305, 325.
Sugar in the blood, amount of, in disease, 13; quantitative estimation of, with Roberts' fermentation test, 505.
Suicide, absence of powder marks no evidence against, 36; among school-children in Prussia, 35.
Sulphonal in psychoses, 377.
Sulphurous acid, hot dilute, in the treatment of diphtheria, 402.
Supreme court dicision of interest to physicians, 730.
"Sweating system" in medical practice, 572.
Sweet oil in the treatment of gall-stones, 16.
Sylvester, F. E., a new ligature box, 122.
Sympathetic ophthalmia, management of, 321.
Symptoms, can we complain of? 571.
Syphilis, abortive treatment of, 685; acquired, in a child four years of age, probably as a result of rape, 158; and dentistry, 570; bacilli in, 575; injection treatment of, 112, 597; not of American origin, 683; of the lungs, 682.
Syphilitic anæmia, 211.
Syria, cholera in, 210.

T

Tabes, an early symptom of, 428; some practical points in the diagnosis of, 424.
Tait, Lawson, on the remote effects of removal of the uterine appendages, 501.
Talcott, Alvan, death of, 416.
Talmud, bacilli in the, 164.
Tampons, vaginal, 663.
Tape-worm, absorption of mercury by a, 472; as a cause of puerperal fever, 176.
Taylor, R. W., chancres of the fingers, their clinical history, their complicating septic infections, and their danger in surgical and obstetrical practice, 69.
Taylor, Wallace, cancer of the cervix uteri with co-existing pregnancy — vaginal hysterectomy—recovery, 259.
Teeth, black, of Malays, 106.
Telephonic probe improvised from the telephone receiver, 61.
Temperance, medical men and, 527.
Temperature, an unusually high, in a child, 553; influence of, upon mortality, 320; reduction of, by the ice-cradle, 294.
Tendon, gangrene of a, 568.
Tenement-house schools, 66.
Tennessee State Medical Society, fifty-eighth annual meeting, 579.
Tetanie or anthrogryposis, 276.
Tetanus neonatorum, 662.
Tetanus, of the uterus, treated with antipyrin, 206; poison of, 291; traumatic, 79.
Tetronal, 114.
Thacher, James Kingsley, obituary of, 492.
Therapeutics, rational, 557; renaissance of, 471.
Thomas, Hugh Owen, obituary of, 60.
Thomas, John J., an improved instrument for administering hypodermic injections, 190.
Thomas, T. Gaillard, obituary of Coert Dubois, M.D., 60; the possibilities of medicine, 333.
Thompson, J. M., more about the dispensaries, 301.
Thompson, William S., death of, 659.
Thorax, traumatism of the, 605.
Throat and nose, experience with trichloracetic acid in two hundred cases of affections of, 312.
Throat clinics in Vienna, 217.
Thrombosis of the lateral sinus, 465.
Thyroid grafting in myxœdema, 13, 235, 601, 625.
Tinea tonsurans, treatment of, 204.
Tinnitus, etiology of, 525.
Titles, the use of extra, 291, 300.
Tongue, the, in scarlet-fever, 569; urticaria of the, 373.
Tongue-spatula, aseptic, 311.
Tonsillitis, suppurative, etiology and surgical treatment of, 125.
Tonsils, enlarged, an instrument for treating, by electrolysis, 470; is removal of the, dangerous? 192; prevention of inflammatory disorders of the, 125.
Torticollis, muscular, pathology and treatment of, 525.
"Tr. opii pulv.," a prescription of, 408.
Tracheal tugging, 406.
Trachelorrhaphy, hystero-neurosis and melancholia cured by, 135.
Tracheotomy, chloroform in, 318.
Tractor, atmospheric obstetrical, 385.
Training-school in Tokio, 550.
Transfusion, saline, for acute anæmia following post-partum hemorrhage, 703.
Transplantation of tissue from the lower animals to man, 221, 237.
Traumatic neuropathies, 458.
Trephining, in epilepsy, 31, 297; the cord, 234.
Trichinosis, two cases of, 677.
Trichloracetic acid, experience with, in two hundred cases of affections of the throat and nose, 312.
Trional, 114.
Truss, the hank, in the treatment of hernia, 616, 630.
Tubal pregnancy, ruptured, 215.
Tubercle bacillus, antagonism of the pneumococcus to, 695; artificial cultivation of, 150; chemistry of the, 178; morphology, cultivation, and toxic products of, 299.
Tubercular endocarditis, 207.

Tubercular peritonitis, exploratory laparotomy in a case of, 466.
Tubercular poison, mode of entry of, into the body, 429.
Tuberculin and climate, 575; history of, in four acts, 687; inoculations with, *see* Inoculation experiments for tuberculosis.
Tuberculosis, another new treatment of, 519; apparent cure of acute pulmonary, 80; boracic acid in the treatment of, 116; cantharidate of potassium in, 293; general, with extensive necrosis of one lung, 270; goat's blood in, 472; in children, 186; injections of anilihe oil in, 269; inoculation of dog serum as a remedy for, 239; Koch's lymph treatment of, *see* Inoculation experiments for tuberculosis; Leibreich's treatment of, 405; limited to the bronchial lymph nodes, 270; of joints, expectant or operative treatment of, 377; of the pericardium, 63; of the prostate and seminal vesicles, 411; pulmonary, 181; pulmonary, action of prussic acid in, 568; pulmonary, some comments on the present therapy of, 401; pulmonary, subcutaneous administration of gold and manganese in the treatment of, 338, 354; pulmonary, treatment of, with vaccine lymph, 409; the dwelling-house in relation to, 667; treatment of, by Koch's method, *see* Inoculation experiments for tuberculosis; uro genitalis, 49.
Tuberculous environment, a, 264.
Tuberculous milk, experimental investigations with, 203.
Tuckerman, L. B., pilocarpine in pneumonia—a suggestion, 652.
Tumor, abdominal, in a male, 232; and tissue insubordination, 624; differential diagnosis of, 302; intra-abdominal, stormy convalescence after the removal of, 550.
Turkish bath, action of, in disease, 579.
Twins five times, 238.
Tyler, Lachlan, foreign body in the larynx, 709
Typhoid and pseudo-typhoid bacilli in river-water, 484.
Typhoid bacilli in urine, 124.
Typhoid fever in Albany, 174; milk diet overdone in, 373; naphthalin in, 578; salol in, 266, 612; treatment of high temperature in, by small and frequently repeated doses of antifebrin, 428; with peculiarities, 356, 443.
Typhus fever in Bellevue Hospital, 434; is the contagion of, always imported? 637.
Tyson, James, the Bright's disease of pregnancy, with especial reference to its management, 1.

U

Ulna, forward dislocation of the head of the, without a fracture of the radius, 553.
Undertaker, a complaint against the, 92.
University, of London, reconstruction of the, 638; of Pennsylvania, fund to establish a four years' medical course at the, 630.
Uratosis, 372.
Urea, vaso-dilator action of, 485.
Urethra, resection of the, for traumatic stricture, 220.
Urethral, stricture, a new divulsor for rapid dilatation of, 645; rapid dilatation in, 178; treatment of, by linear electrolysis, 14.
Uric acid in the blood, 82.
Urinalysis for sugar, qualitative and quantitative, 457.
Urine, albumin in the, source and significance of, 207; an acetone-yielding substance in normal, 205; fatty, accompanying an abscess of the right iliac fossa, 545; incontinence of, faradization for, 683; of children, indican in the, 233; of pregnant women, toxic properties of, 302; of the insane, 317; proteids found in the, in albuminuria, 167; typhoid bacilli in, 124.
Urticaria, of the tongue, 373; vinegar for 444.
Use and abuse of dental charity, 731.
Uterine appendages, remote effects of removal of the 501.
Uterine repositor, a new, 34.
Uterus, cancer of, salol as a disinfectant in, 525; cancer of the cervix with co-existing pregnancy—vaginal hysterectomy—recovery, 259; electrical treatment of fibroid tumors of the, 635; fibroids of the, operations for, 288; hernia of, through the cicatrix of a Cæsarean section, 403; laceration of the cervix, practical results of operation for, 705, 717; method of fixing the, 385; rupture of the parturient, celiotomy for, 663; tetanus of, treated with antipyrin, 206; treatment of posterior displacements of the, by the utero-vaginal suture, 181.

V

Vaccination, an early proof of the value of, 696; immunity against influenza furnished by, 584; in France, 379; royal commission on, third report of the, 121; some statistics of, 620.
Vagina, atresia of, following labor, 721; tampons of the, 663; treatment of injuries to the floor of the, 181.
Vaginal speculum, self-retaining, for operations in the dorsal position, 283.
Van Arsdale, W. W., statistics of lymphadenitis, 220.
Vandervoort, John L., resignation of, as librarian of the New York Hospital, 54.
Van Dyke, F. W., a case of unusually high temperature in a child—diseases of children and the plague of old women, 553.
Van Santvoord, R., spontaneous (non instrumental) access of bacteria to bladder, and slight vesical incompetence, as causes of cystitis, especially in the female, 585.
Van Wyck, R. C., practical notes on the prophylaxis and treatment of diphtheria, 258.
Varicocele, treatment of, 372.
Varicose veins, ligature of the saphena in cases of, 567; new method of treating, 687.
Variola in the Scotia, 610.
Vaseline, shaving with, 683.
Vegetable plate, use of, for intestinal anastomosis, 725.
Venereal disease, rarity of, among the laboring classes of Paris, 599.
Venesection, 243; attempt to revive, 489.
Venous hum, 655.
Vermiform appendix, removal of, 357.
Vermifuge, santoninoxime as a, 205.
Version in pelvic deformities, advantages of the anti-craniotomy forceps over, 717.
Veterinary medicine and the U. S. Government, 627.
Viburnum prunifolium for cramps in the legs, 421.
Vienna, how to get along in, 33; letter from, 217, 244.
Villari, E., abscess of the liver of malarial origin—recovery, 522.
Vinegar for urticaria, 444.
Virchow's seventieth birthday, 539.
Vision, binocular, restoration of, by a partial tenotomy of the superior rectus, 567.
Vokes, Arthur, suicide of, 492.
Vomiting of pregnancy, 673.

W

Ward, J. H., death of, 520.
Wardwell, William T. S., a case of heart disease with pulmonary œdema, relieved by oxygen inhalation, 483.
Warren, Joseph H., death of, 492.
Warren, Lillie E., pathological language, 245.
Warriner, M. A., a case of aconite poisoning, 521.
Washburn, W., treatment of habitual constipation, 522.
Water, hot, as a remedial agent, 554; pure, 304.
Weir, Robert F., gastro-enterostomy rather than resection for cancer of the pylorus, with a case of gastro-enterostomy, 37, 62.
Wells, J. Hunter, injections in syphilis, and a handy method for curing syphilitic palmar psoriasis, 597.
Wet-nurses, a legal decision concerning, 140.
White, John Blake, an antiseptic syringe for hypodermic injection, 151; value of the subcutaneous administration of gold and manganese in the treatment of tuberculosis, 338, 354.
White, W. F., institutions for drunkards, 331.
Whitman, Royal, fracture of the neck of the femur in a child, 165.
Whooping-cough, treatment of, by atomization, 676; treatment of, by cold baths, 207.
Wiggin, Frederick H., imperforate hymen, 136.
Williams, A. V., the use of cocaine in circumcision, 403.
Willis, H., death of, 434.
Wisconsin, medical examiners for, 175.
Woman's hospital in Bosnia, 713.
Women, medical, ought they to marry, 711; pelvic inflammation in, 180.
Wood, Frederick J., case of traumatic tetanus—recovery, 79.
Wood, H. D., McDowell's method of controlling epistaxis, 81.
Woodruff, Charles E., an abdominal tumor in a male, 232; diseases of Northern California Indians, 104.
Woollen, Levin J., hot water as a remedial agent, 554.
Worms, intestinal, 471.
Wound treatment, modern, scientific rationale of, 547.
Wright, Jonathan, a modification of a nasal snare, 724.
Wyeth, John A., craniectomy for microcephalus, 232.
Wyman, Walter, appointed Surgeon-General of the Marine Hospital Service, 713.

Y

Yellow fever in Lyons, 380.

Z

Zinc sulphate in diphtheria, 402, 527.
Zymotic diseases, 541; in New York, 95.

BINDING SECT. MAY 18 1963

R
11
M433
v. 39

Medical record

Biological
& Medical
Serials

PLEASE DO NOT REMOVE
CARDS OR SLIPS FROM THIS POCKET

UNIVERSITY OF TORONTO LIBRARY